CANOSCAN FB1210U

SERVICE MANUAL

REVISION 0

Canon

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LIST OF SERIAL NUMBER

CanoScan FB1210U	**F91-4411**	**AZG000000-**
	F91-4431	**CZG000000-**
	F91-4441	**DZG000000-**
	F91-4451	**EZG000000-**
	F91-4461	**FZG000000-**
	F91-4471	**LZG000000-**
	F91-4421	**MZG000000-**
	F91-4491	**JZG000000-**

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I. SPECIFICATIONS

Main Unit

Type	: Flatbed image scanner

Reading Unit

Image sensor	: 10,550-pixel 3-line CCD
Light source	: Cold cathode fluorescent lamp
Document type	: Sheet, Book
Document alignment position	: Right-end corner
Max. document size	: A4/Letter size (216 x 297mm)
Image output mode	: Color 14-bit for RGB each Grayscale (256 gradations) Binary (black and white)
Optical resolution	: 1200 dpi x 2400 dpi
Scanning time	: 7 min. and 10 sec. (color, A4, 1200 dpi) 3 min. (grayscale, A4, 1200 dpi) 7 sec. (binary, A4, 1200 dpi)
Cropping of scan area	: One rectangular area only

Interface

Interface	: USB (Universal Serial Bus) 1.1

Others

Operating environment	: Temperature : 10 to 35 degrees Relative humidity : 20 to 80%RH Air pressure : 608 to 1013 hPa
Power consumption	: 15 W or less (during operation) 8 W (during standby)
Dimensions	: 286.0 (Width) x 461.0 (Depth) x 92.5 (Height) mm
Weight	: Approx. 3.8 kg
Option	: Film Adapter Unit FAU-S11

Specifications are subject to change without prior notice.

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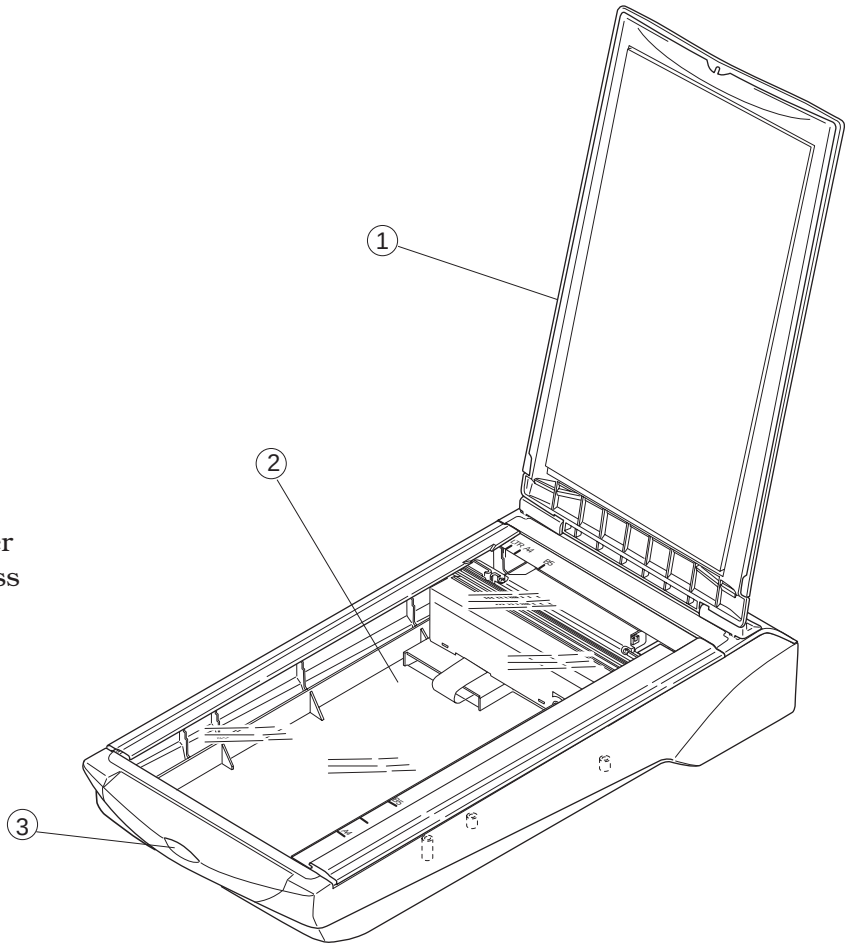
II. PARTS CONFIGURATION

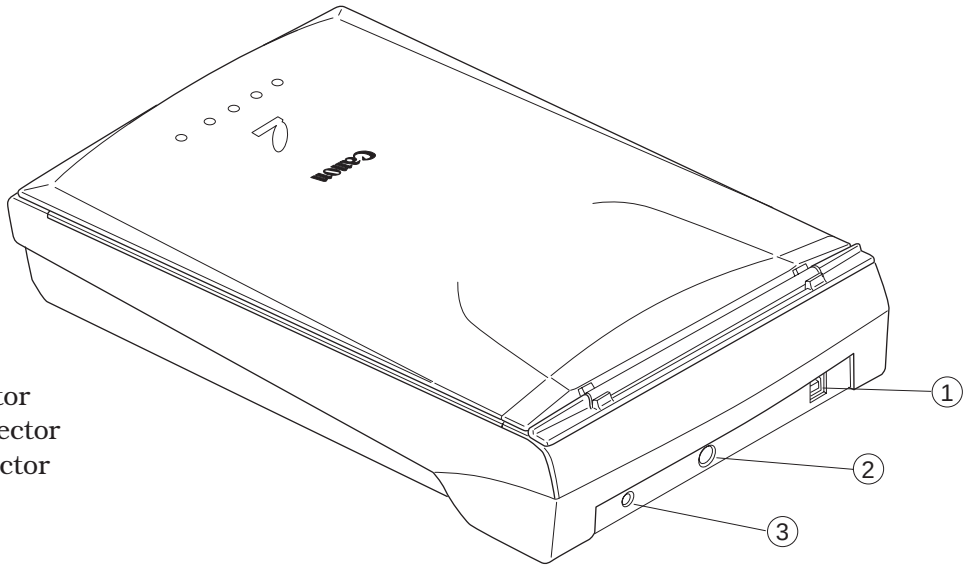
A. Front View



① DocumentCover
② Document Glass
③ Start Button

Figure 1-1

B. Rear View



① USB Connector
② Option Connector
③ Power Connector

Figure 1-2

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III. SETTING UP THE SCANNER

A. Precautions

* Keep the scanner out of direct sunlight. Direct exposure to the sun or excessive heat may cause damage to the scanner.
* Do not install the scanner in a humid or dusty environment.
* Use the supplied AC adapter only.
* Place the scanner securely on an even, flat surface. Tilted or uneven surface may cause a mechanical problem.
* Keep the outer carton and packing material in case you may ship the scanner in the future.

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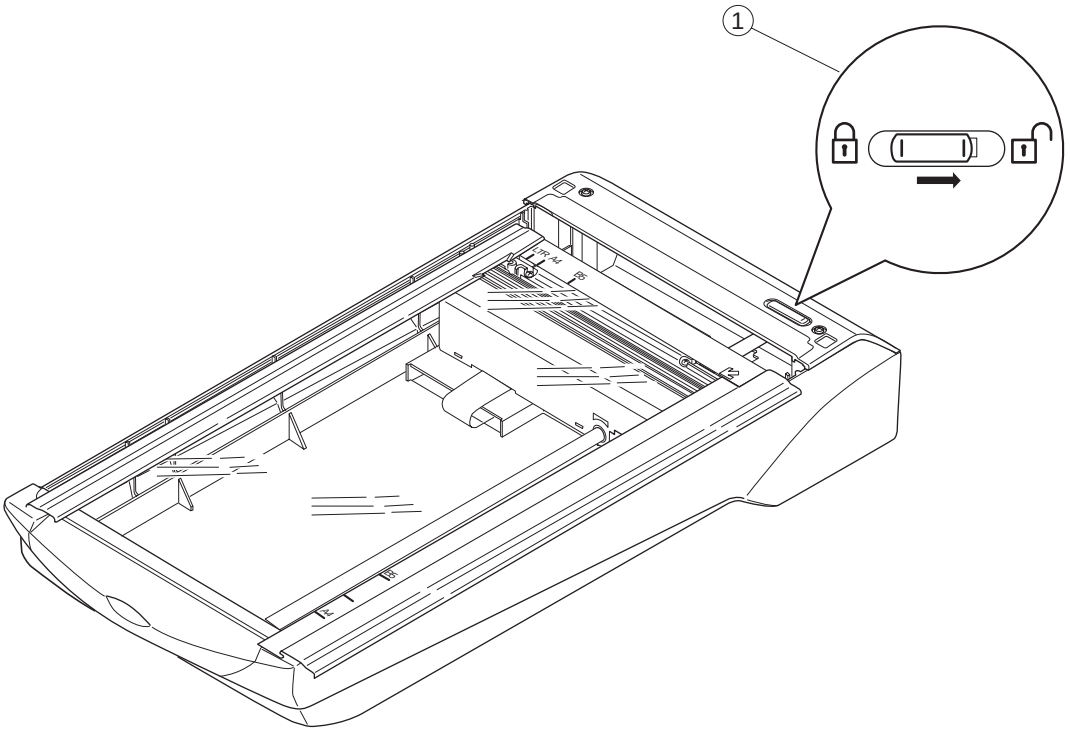
B. Unlocking the Scanning Unit

Scanning unit is locked by the carriage lock to prevent a damage during transport. Unlock the scanning unit by pushing the carriage lock toward the “unlock” mark to use the scanner.



① Carriage Lock

Figure 1-3

Note : Ensure to lock the scanning unit during transport.

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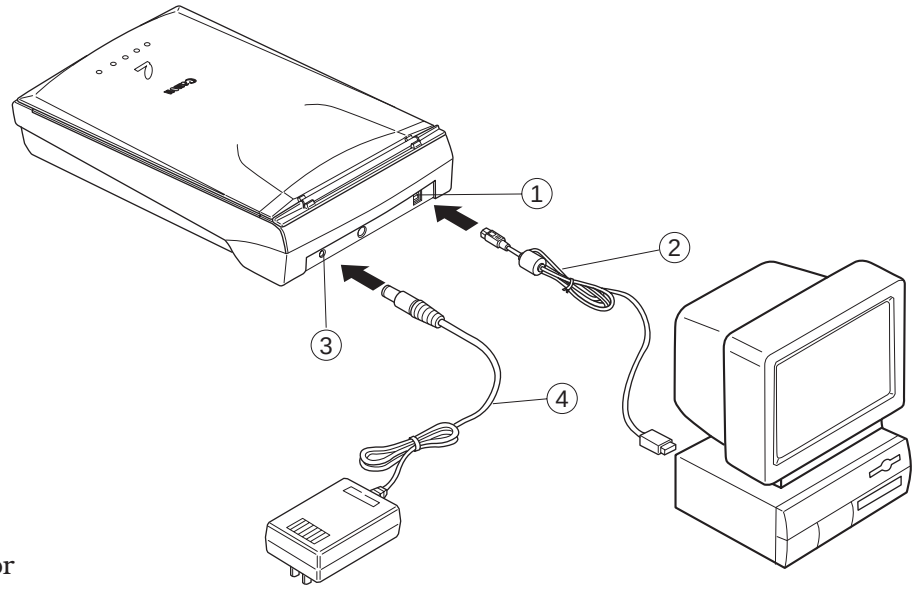
C. Connecting the Cables

FB1210U is connected to the USB port on the host computer. Refer to the "Getting Started" bundled with the product for details. For connecting the host computer's cables, refer to the manuals for the host computer.

1. Connect the AC Adapter Cable and USB Cable

1) Connect the AC adapter plug to the power connector on the scanner.
2) Connect the square plug (B type) of the USB cable to the USB connector on the scanner, and connect the flat plug (A type) of the USB cable to the USB port on the host computer.



① USB Connector
② USB Cable
③ Power Connector
④ AC Adapter

Figure 1-4

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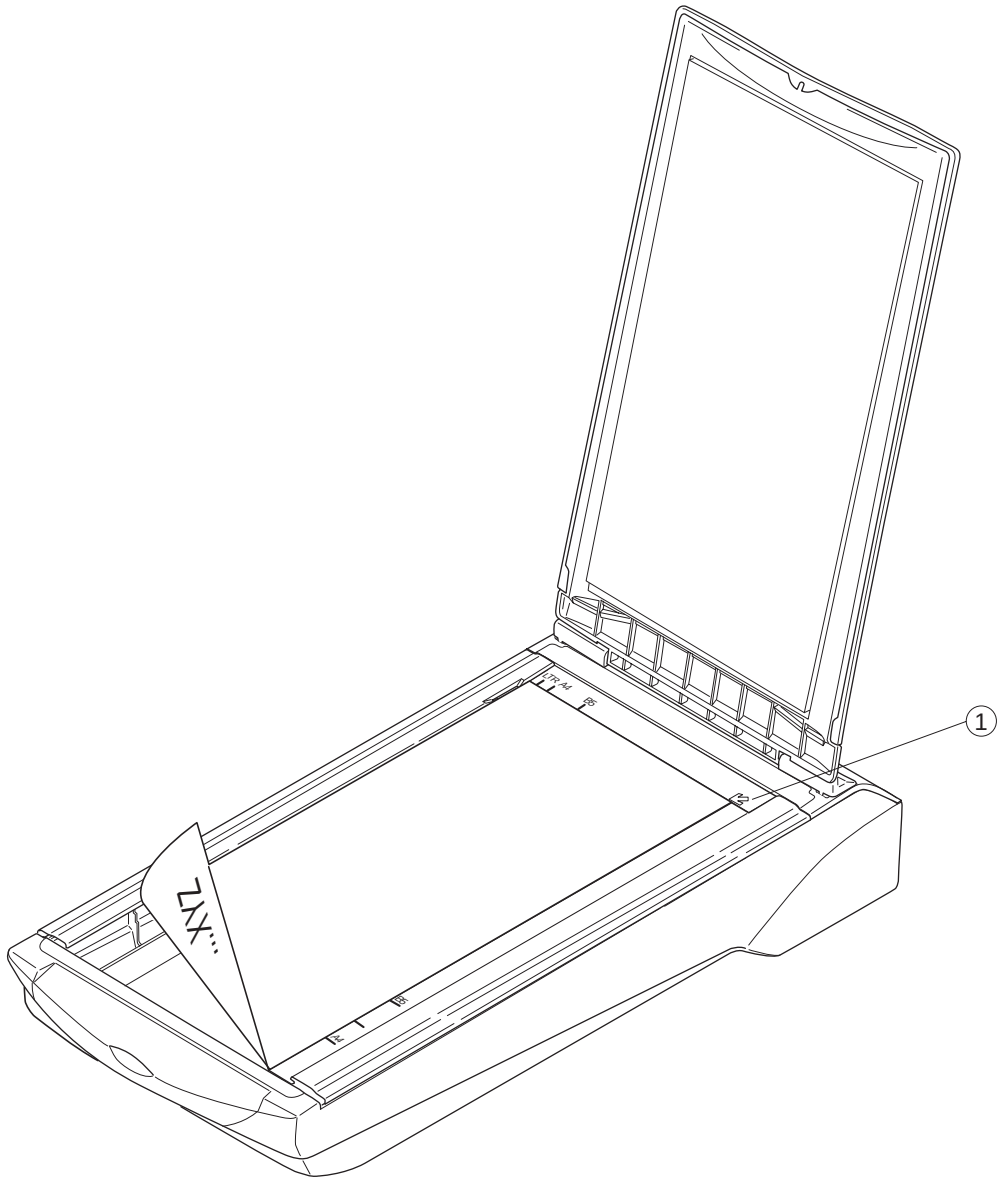
D. Scanning a Document

1) Open the document cover.
2) Place a document on the document glass, facing the image side down and aligning the upper corner with the alignment mark.



① Alignment Mark

Figure 1-5

3) Close the document cover, caring not to dislodge the document.
4) Send “SCAN” command from the host computer to scan.

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IV. CUSTOMER'S DAILY MAINTENANCE

Dirt on the document glass may cause an unclear image or lines on an image. Clean the document glass using the following procedures.

1) Disconnect all cables from the scanner.
2) Wipe a dirt off the document glass with a soft clean cloth dampened with water and well wrung.
3) Thoroughly wipe water off the document glass with a dry cloth.

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I. BASIC OPERATION

A. Functions

The scanner functions are divided into the following three main systems.

1. Optical System

The optical system consists of the scanning lamp, lens and mirrors. It exposes a document, then the reflected light from the document is collected onto a light-sensitive device CCD (charge-coupled device) via the lens and mirrors.

2. Image Processing System

The image processing system consists mainly of the CCD, analog IC, and ASIC. It converts analog signals from the CCD into digital signals, which is read by the host computer.

3. Control System

The control system consists mainly of ASIC, USB controller, CPU, and motor driver. The CPU controls the whole scanning operation. The USB controller controls the interface between the CPU and ASIC, while the CPU interprets all commands from the host computer.

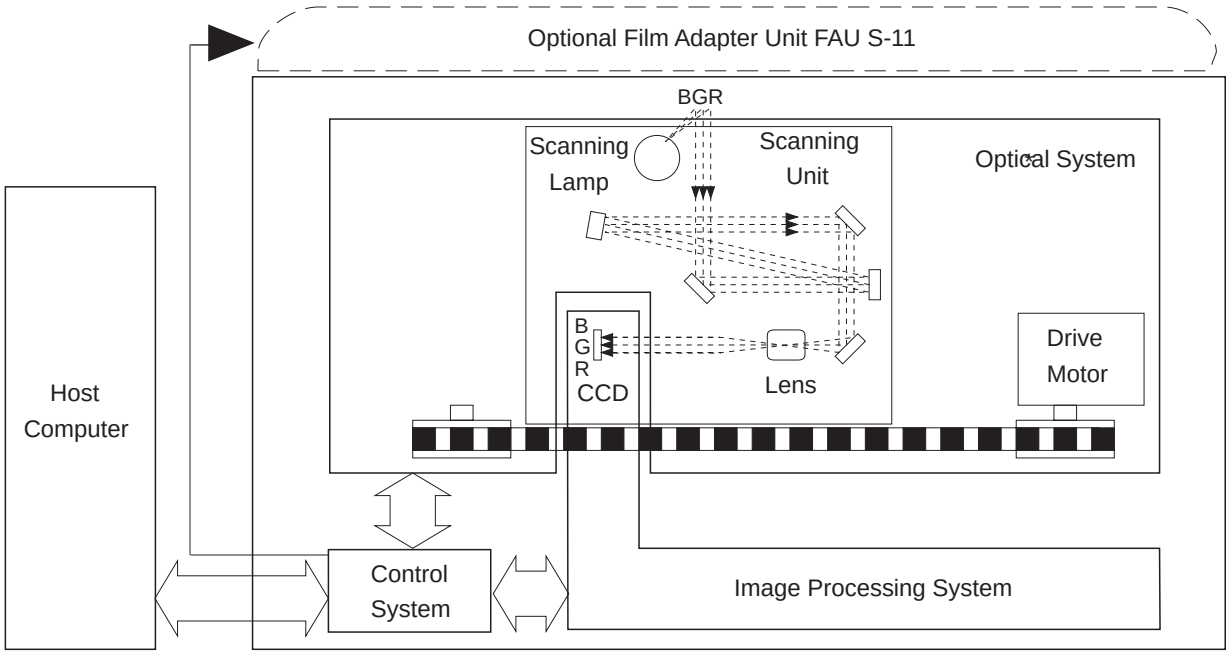

Figure 2-1

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B. Electrical System

1. Outline

The scanner is equipped with CPU and USB controller. Host computer sends a command to the ASIC via the USB controller and CPU, the CPU controls the whole electrical circuits and image processing of the scanner. The image signals read by the CCD are converted into digital data by analog IC. The digital data are then processed by the ASIC and output to the host computer via USB interface.

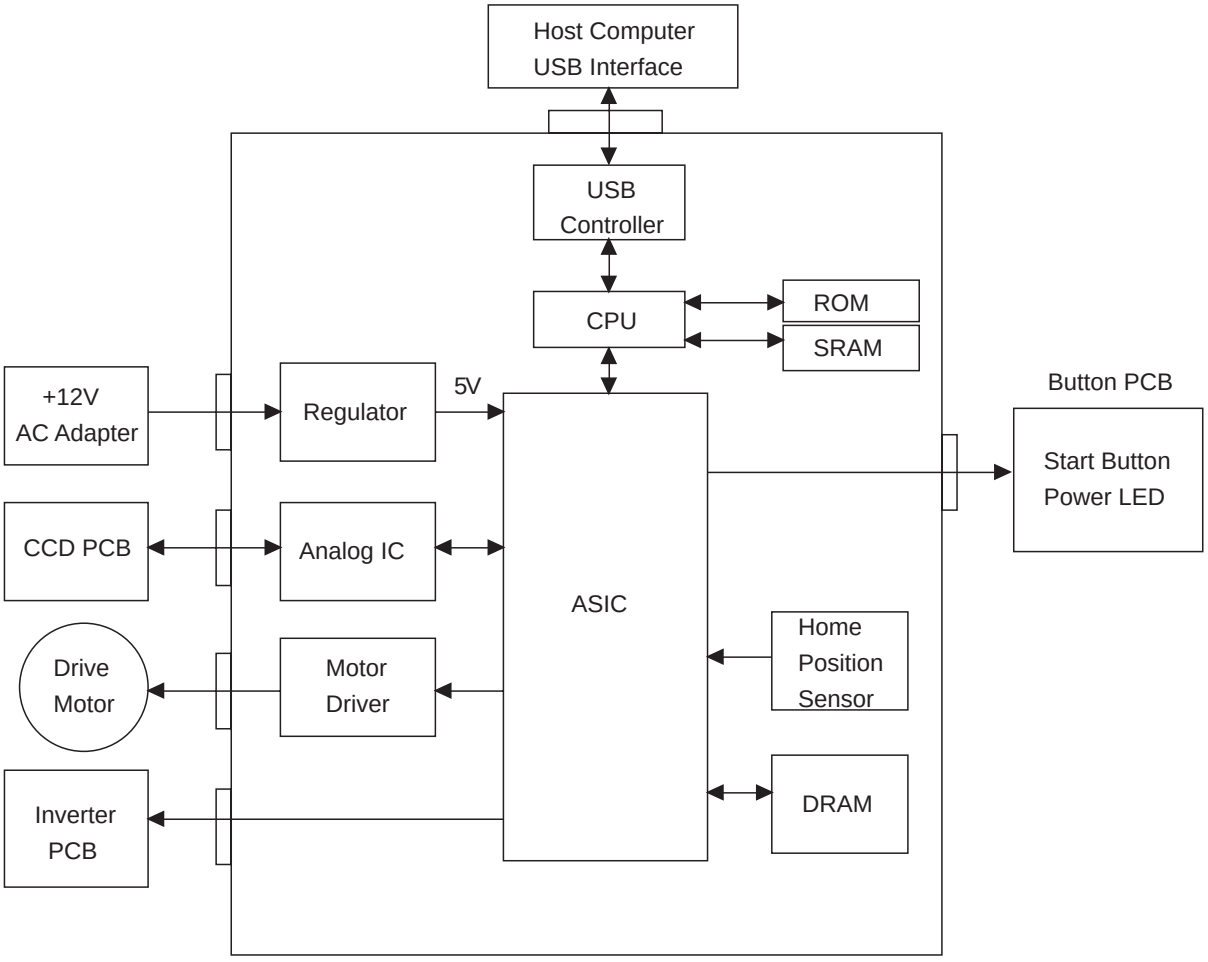

Figure 2-2

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2. Functions of the Main PCB

1) Analog IC

Converts the image signals (analog signals) read by the CCD into digital data.

- CDS (Correlated Double Sampling)
- AGC (Auto Gain Control)
- 14-bit A/D converter (Analog-to-Digital Converter)

2) ASIC

Performs various processing:

- DRAM control
- CCD timing clock creation
- Line buffer control
- CCD output line difference adjustment
- Image processing (Binary processing, Image inversion)
- Shading correction
- Motor driver control

3) DRAM

Stores the shading correction data when performing shading correction, and the image data when scanning.

4) Motor Driver

A monolithic microstep motor driver supplies power to the drive motor.

5) USB Controller

Transmits data between the host computer and ASIC.

6) CPU

Interprets commands from the host computer to generate parameter for the ASIC to perform various processing.

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C. Main PCB Input and Output

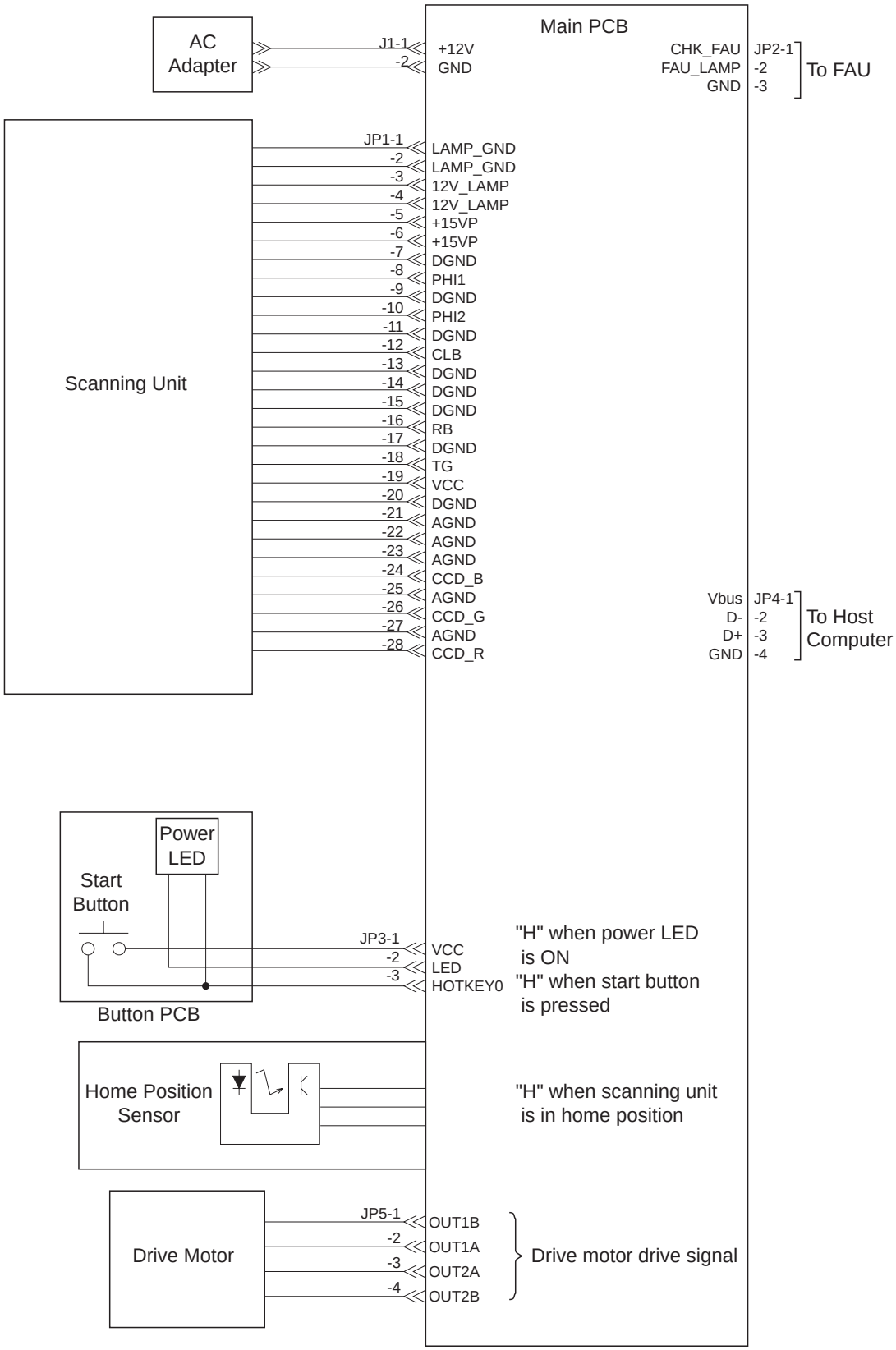

Figure 2-3

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D. Basic Sequences of Operations

The basic sequences of operations of CanoScan FB1210U is divided into the power ON sequence and the document scanning sequence.

1. Power ON Sequence

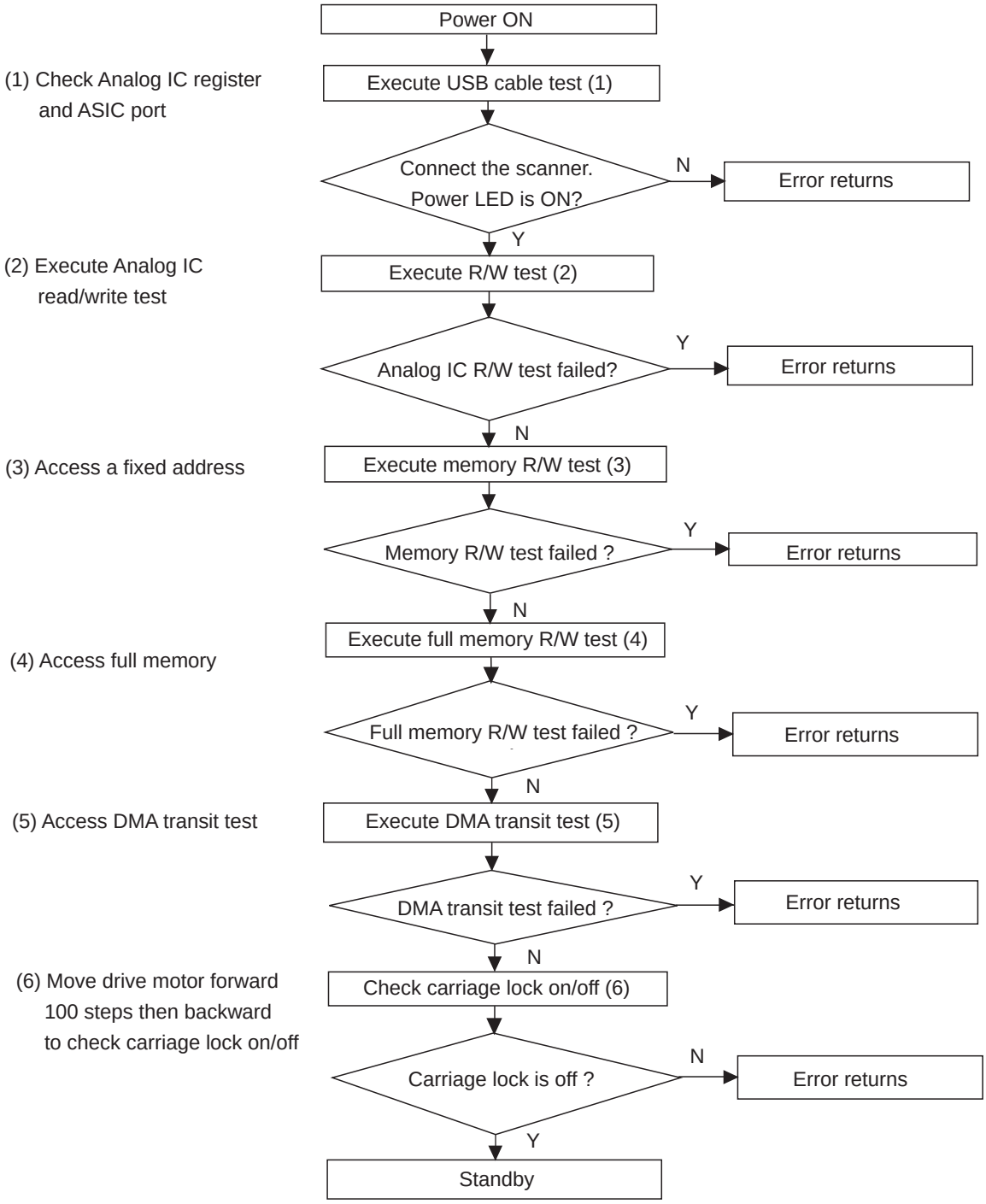

Figure 2-4

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2. Document Scanning Sequence

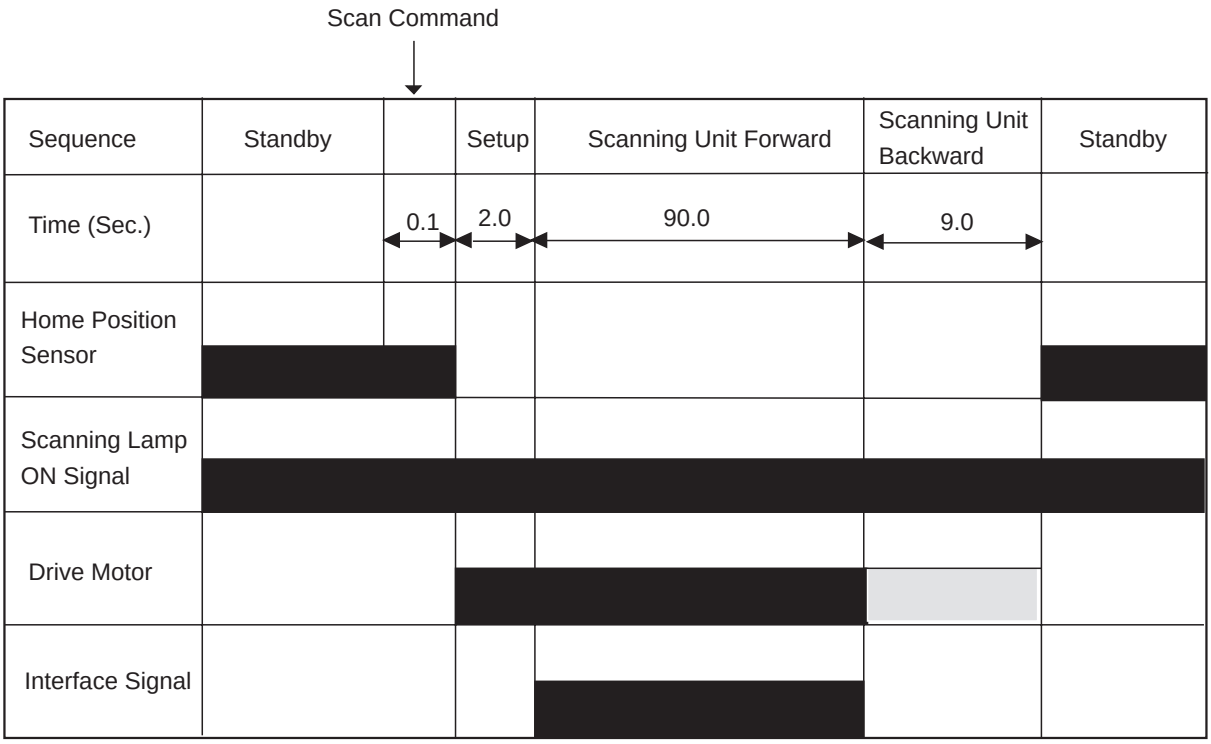

Figure 2-5

Sequence	Operation	Purpose	Remarks
Standby	After the power ON sequence is completed until the scanner receives a scan command from the host computer	To maintain the scanner ready for scan	
Setup	From the scanner receives a scan command until it starts scanning	To execute calibration for setting gain data and shading data	The data is stored in DRAM
Scanning unit forward	After the scanner starts scanning until whole scan area specified by the host computer are scanned	To execute image processing according to the command from the host computer and send image data to the host computer while scanning	
Scanning unit backward	After the scanning unit starts moving backward until it returns to the home position	To return the scanning unit to the home position to ready for the next scan	Home position is detected by the home position sensor

Table 2-1

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II. OPTICAL SYSTEM

The optical system has functions from exposing a document by the scanning lamp to collecting the reflected light to the CCD. The system employs a 3-line CCD to recognize colors of the document.

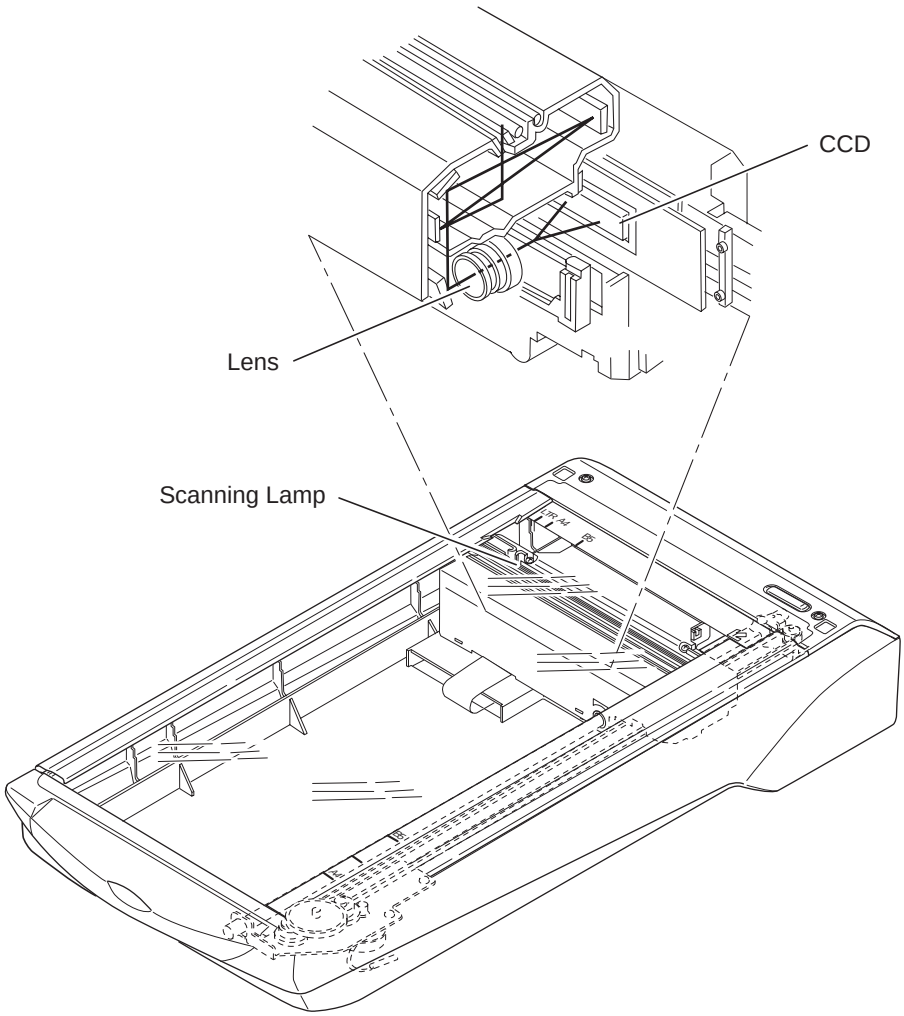

Figure 2-6

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A. Scanning Lamp

When the scanner is powered on, the scanning lamp lights to standby. The scanner is provided with an energy saving setting which is made in the Scanner Utilities Dialog. For example, if it is set for 30 minutes, then no scan command is sent for 30 minutes, ASIC sends the scanning lamp off signal to turn off the lamp.

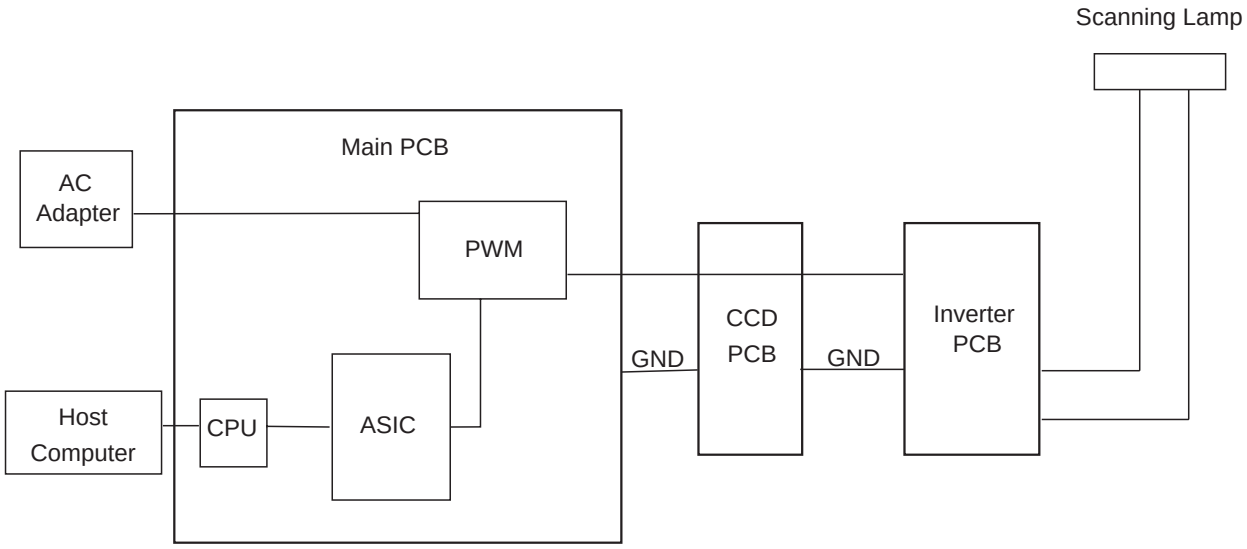

Figure 2-7

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B. Motor Control

When the host computer sends a command to change scaling/resolution, the motor driver current control signals [PA+, PA-, PB+, PB-] are changed to generate a torque for the rotating speed. Yet, the reverse speed of the scanning unit is always constant.

The ASIC receives each command sent from the host computer via the USB interface to control the motor by four-phase motor driver pulse signals [OUT1B, OUT1A, OUT2A, OUT2B].

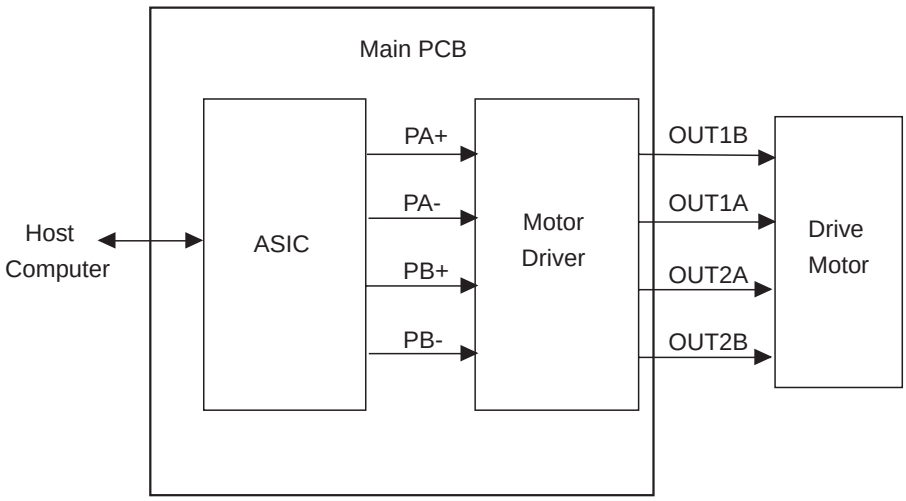

Figure 2-8

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III. IMAGE PROCESSING

A. Outline

The image processing system converts light signals read by the CCD to electric signals, then outputs the image data to the host computer via the USB interface upon various image processing.

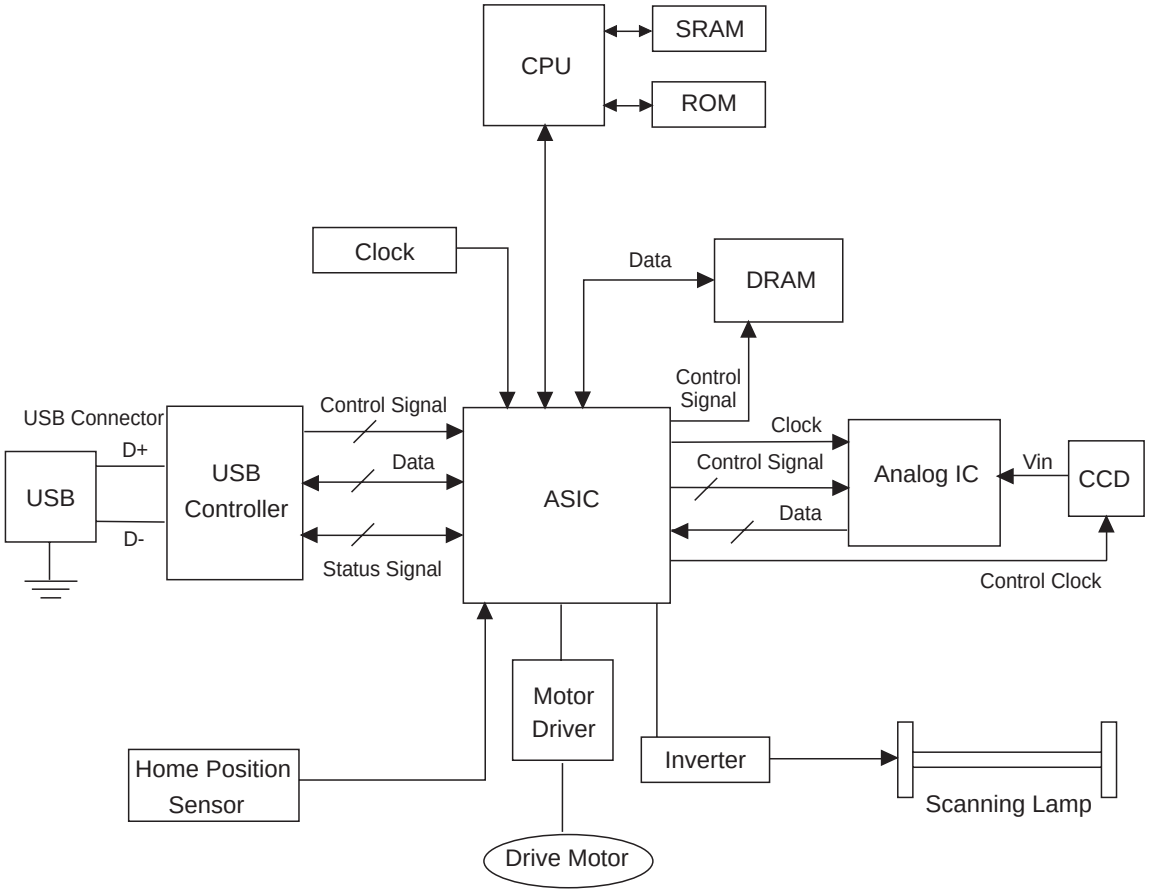

Figure 2-9

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B. Image Processing

1. Analog IC

Output signal from the CCD is an analog signal which cannot be used as image data. So RGB output signal from the CCD is amplified by analog amplifier to generate analog data. The generated data is converted into averaged analog signal by D/A converter, then got feedback to the A/D converter to output constant digital data to the ASIC.

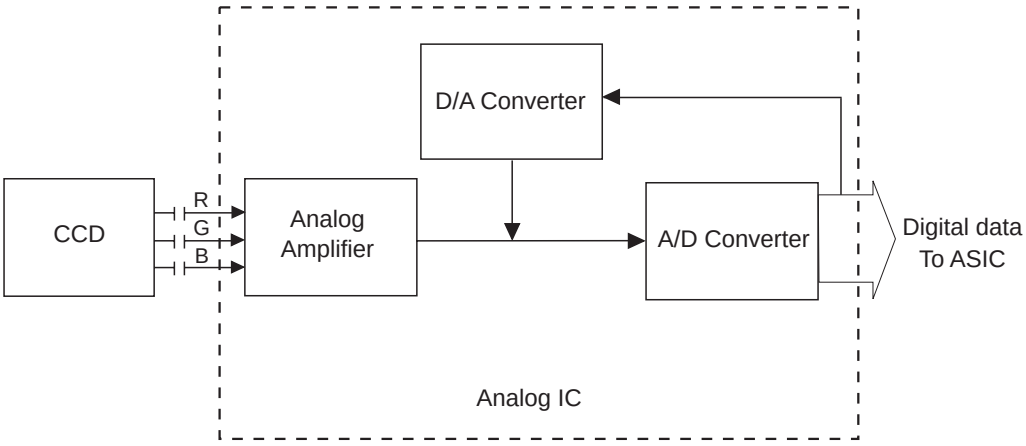

Figure 2-10

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2. D/A Converter

D/A converter removes ununiform analog data generated by the CCD. It adjusts CCD output to keep max. 5V of input signal to the A/D converter, to make the black level of the image constant.

3. A/D Converter

The A/D converter converts the black-level-corrected image signal (analog signal) to a 14-bit image data (digital signal) in the order of red, green and blue image signal.

5V is applied to the VRT terminal and reference voltage is applied to the VRB terminal. A/D converter outputs "0" when input signal is 5V, and outputs "16383" when input signal is reference voltage. This converts 1 pixel signal into the image data of 16384 gradations for red, green and blue each.

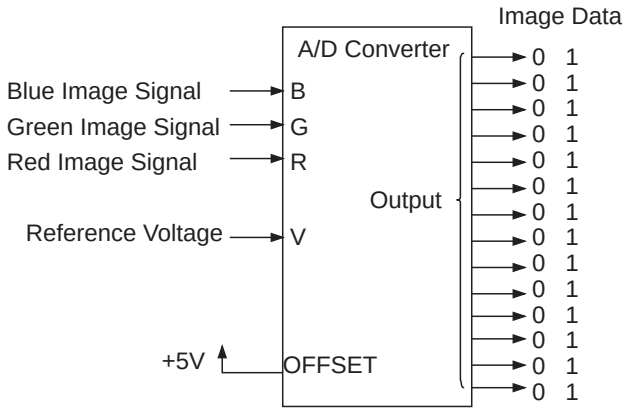

Figure 2-11

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C. Calibration

Calibration can be performed to normalize the pixels of a linear CCD so that each pixel produces the same digital output code from the scanner when presented with the same image light intensity. This intensity ranges from black (no light) to white (maximum light intensity). The CCD's analog output may have large pixel-to-pixel variations in their output voltage when scanning the same white image (corresponding to errors on brighter signals). If these offsets are subtracted from each pixel, and each pixel is given the optimum gain setting to correct for different efficiencies, then these errors can be eliminated.

Ideally the digital output code for any pixel would be zero for a black image, and some code near the full scale for an image with maximum brightness. This code is called the target code.

The analog IC eliminates these global and pixel-to-pixel offset and gain errors with its Correlated Double Sampling, Offset D/A converter, Variable Gain Amplifier (VGA), and Programmable Gain Amplifier (PGA).

Calibrating an analog IC-based system requires three steps:

1) Offset Calibration
Takes a black image and normalizes the digital output code for each pixel to a code at or near 0.

2) Boot-Gain/Coarse-Gain Stage Calibration
Finds the optimum gain setting that places the output voltage of all the pixels from x0.93 to x9 adjustment range of these two stages.

3) Shading Correction from ASIC
Calculates the gain required for normalizing the output of each pixel to the target code.

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D. Filter Processing

When converting resolution and scaling, the image quality tends to be reduced. To prevent the image quality reduction, filter processing is performed according to the resolution. Filter processing for this scanner includes horizontal scanning interpolation, vertical scanning interpolation, descreen, and averaging. Table 2-2 shows the resolution for filter processing.

Gradation	Resolution (dpi)	Horizontal scanning interpolation	Vertical scanning interpolation	Descreen	Averaging
Color	10-99	x	x	o	x
	100	x	o	o	x
	101-149	x	x	o	x
	150	x	o	o	x
	151-299	o	x	o	o
	300	x	o	x	x
	301-1200	o	x	x	x
Grayscale	10-149	x	x	o	x
	150	o	x	o	x
	151-299	o	x	o	o
	300	x	x	x	x
	301-1200	o	x	x	x

Table 2-2

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E. Interpolation Processing

When reading images at higher resolution, the one pixel output of the CCD is treated as two image data in the horizontal scanning direction, and the one line output of the CCD is treated as two image data in the vertical scanning direction, causing a reduced image quality. To prevent the image quality reduction, interpolation processing is performed. Figure 2-12 shows a change in image density by the interpolation processing.

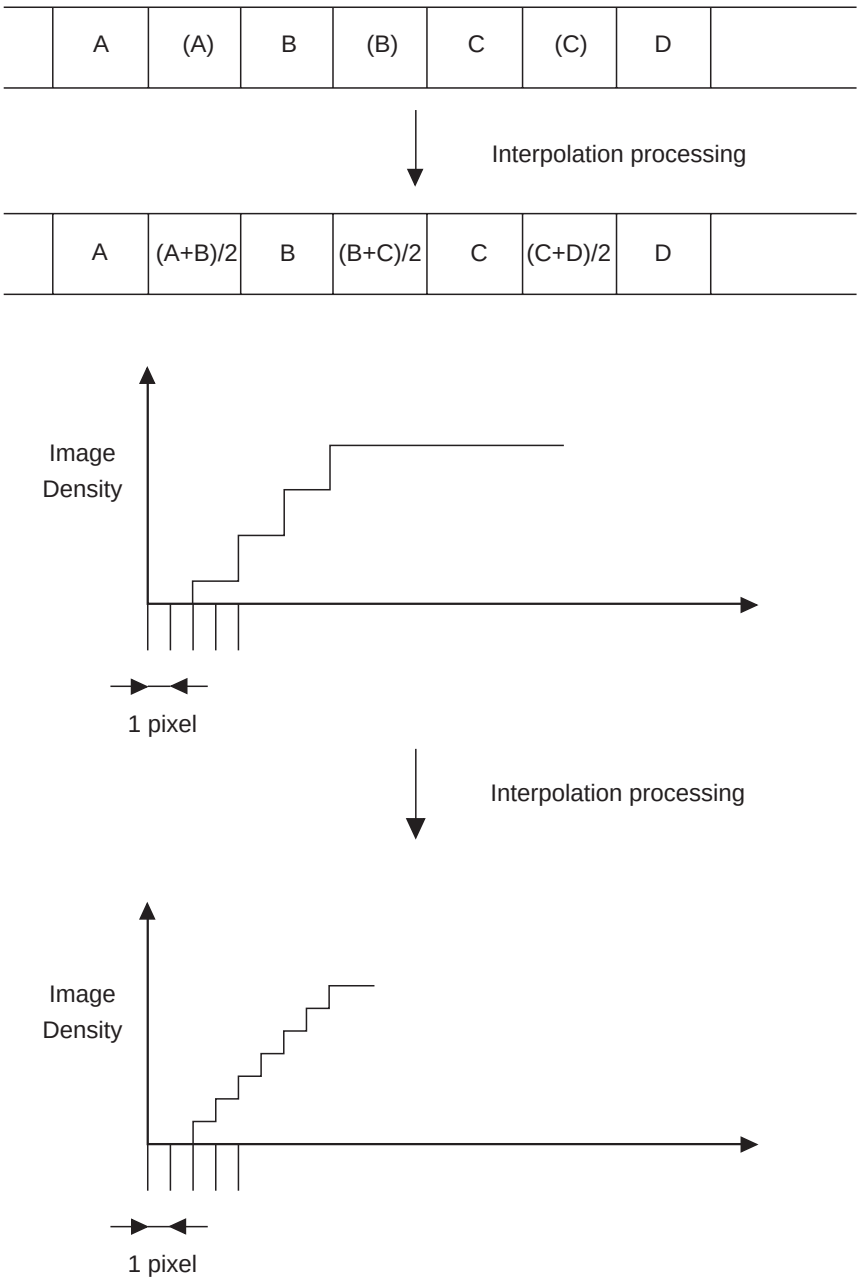

Figure 2-12

F. Averaging

When reading images at lower resolution, the thinned data increases resulting in output image deterioration. Averaging is a process in which the data to be thinned and the data to be actually output are averaged and output, in order to suppress the image deterioration due to the data thinning.

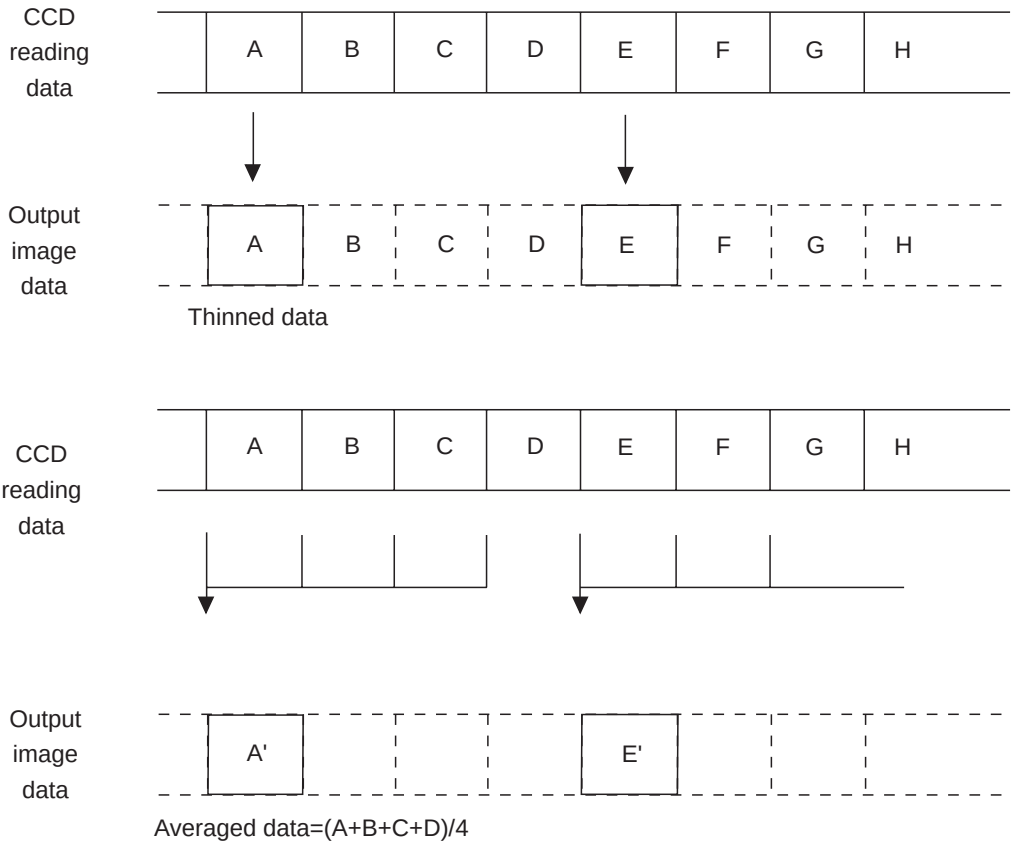

Figure 2-13

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G. Binary Processing

Binary processing converts the 8-bit grayscale data into binary data in which 1 bit indicates white or black.

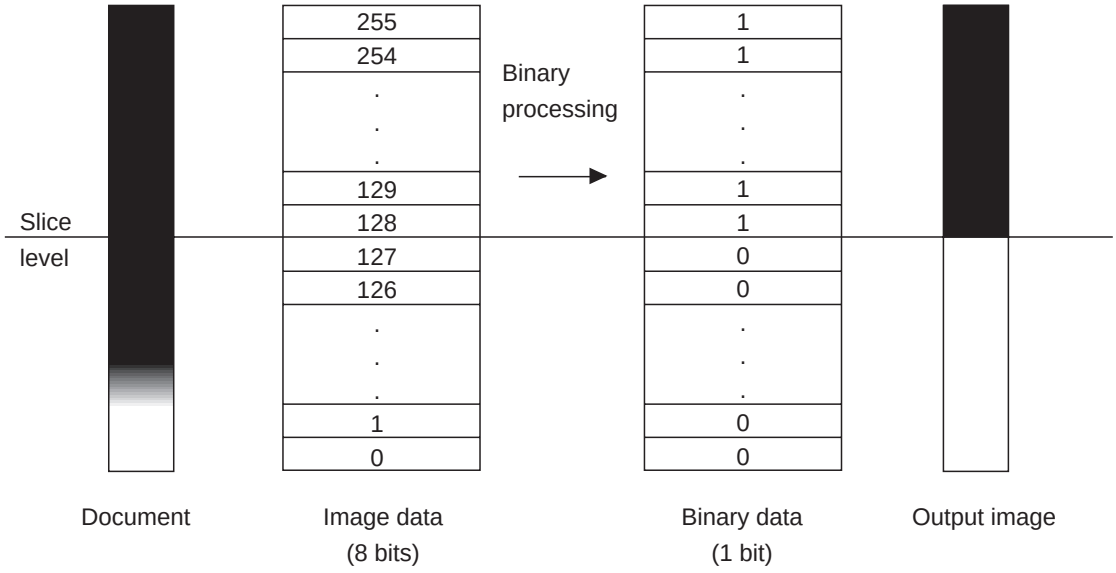

Figure 2-14

The ASIC sets parameters (slice level) in the slice level register when the host computer commands binary processing. The comparator compares the image data with the slice level, and converts the data into binary data consisting of 1 (black) or 0 (white).

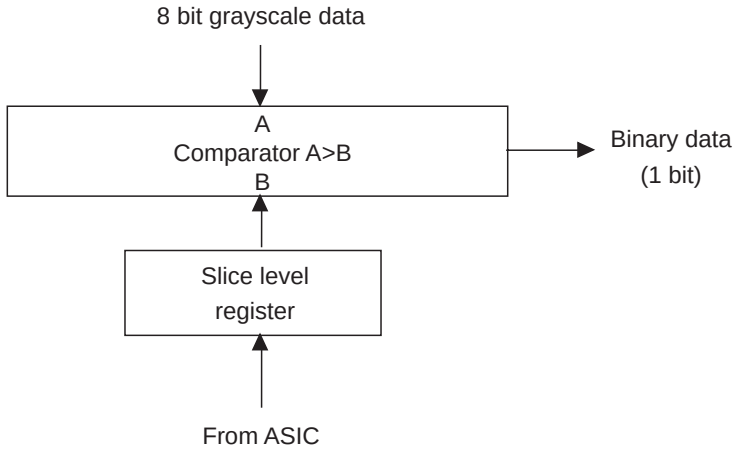

Figure 2-15

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H. Image Inversion (negative/positive)

Image inversion is to reverse the density level of a document by inverting the color data, 8-bit grayscale data or binary data.

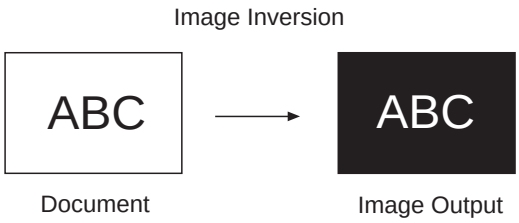

Figure 2-16

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IV. CONTROL SYSTEM

A. Control System Diagram

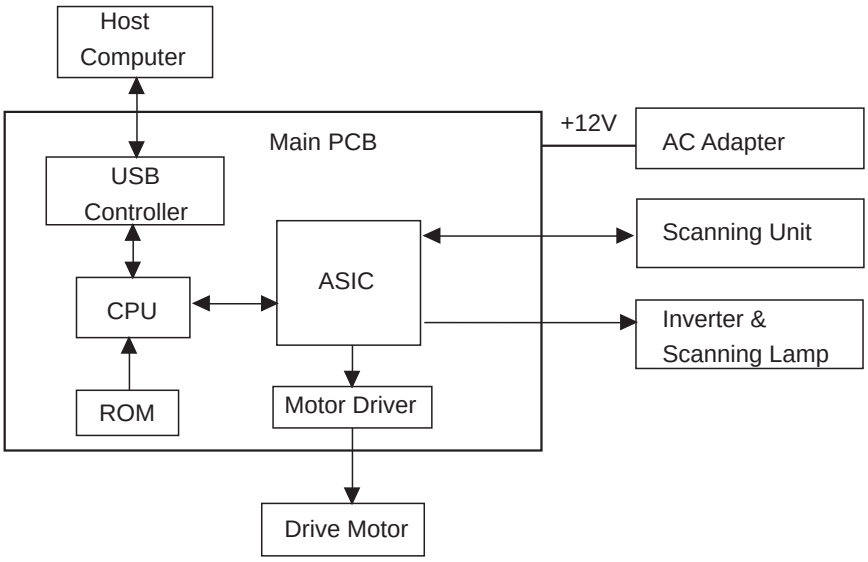

Figure 2-17

B. Main PCB

Main PCB consists of CPU, ROM, SRAM, DRAM, ASIC, USB controller, analog I/C and motor driver. The CPU controls all scanning operations, and the ROM has the control program code.

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V. INTERFACE

A. Overview of the USB Standard

Since early 1997, the Universal Serial Bus (USB) has been the standard on most PCs. The USB standard was developed by Compaq, IBM, Intel, Microsoft, NEC, and Northern Telecom. It resulted from an industry-wide initiative to standardize peripheral attachments to PCs, and to improve the speed, performance and ease of use of PC peripherals.

USB has been supported from Windows 95 (OSR 2.1), and it is now a key component of Windows 98. In addition, USB are supported in Windows CE and Windows 2000 according to Microsoft. USB support is currently available on the Apple platform and will be available shortly on some other platforms.

B. Benefits of the USB Scanner

1. True Plug & Play

Unlike the previous generation of SCSI scanners, no add-in cards are required to setup the USB scanners. This eliminates complex procedures, such as opening the box to install a card, or reconfiguring the system (setting DMA, IRQ, jumper cables, etc.) The USB scanners are simply plugged in and unplugged at any time.

2. Higher Speed

USB scanner is nearly 10 times faster than a standard parallel-port scanner at bandwidth 12 Mbits/sec.

3. Multiple Devices Support

USB specification can support up to 127 devices simultaneously on a computer by using “hub” terminals as additional plug-in locations.

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C. Signal Definitions

USB uses two differential signal lines (D+ and D-) only to communicate with the host computer.

Pin	Signal
1	VBUS
2	D-
3	D+
4	Signal GND
Shell	Chassis GND

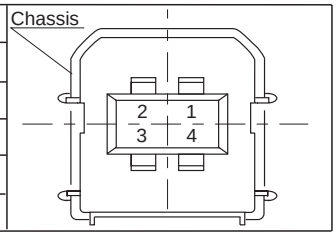
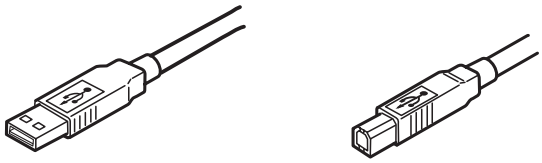


Table 2-3

D. Interface Connection

USB connctor has A plug for connecting to upper layer and B plug for connecting to lower layer.



A Plug
To Host Computer

B Plug
To Scanner

Figure 2-18

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VI. POWER SUPPLY

DC power is supplied from a supplied AC adapter. Through power regulator, three DC power sources (+5V, +12V and +15V) are used in the circuit. +5V is supplied for the digital circuit and linear chip, +15V is for the CCD PCB, and +12V is for the motor driver and scanning lamp. Protection circuit is used between the AC adapter and regulator to prevent over voltage, over current or reverse polarity.

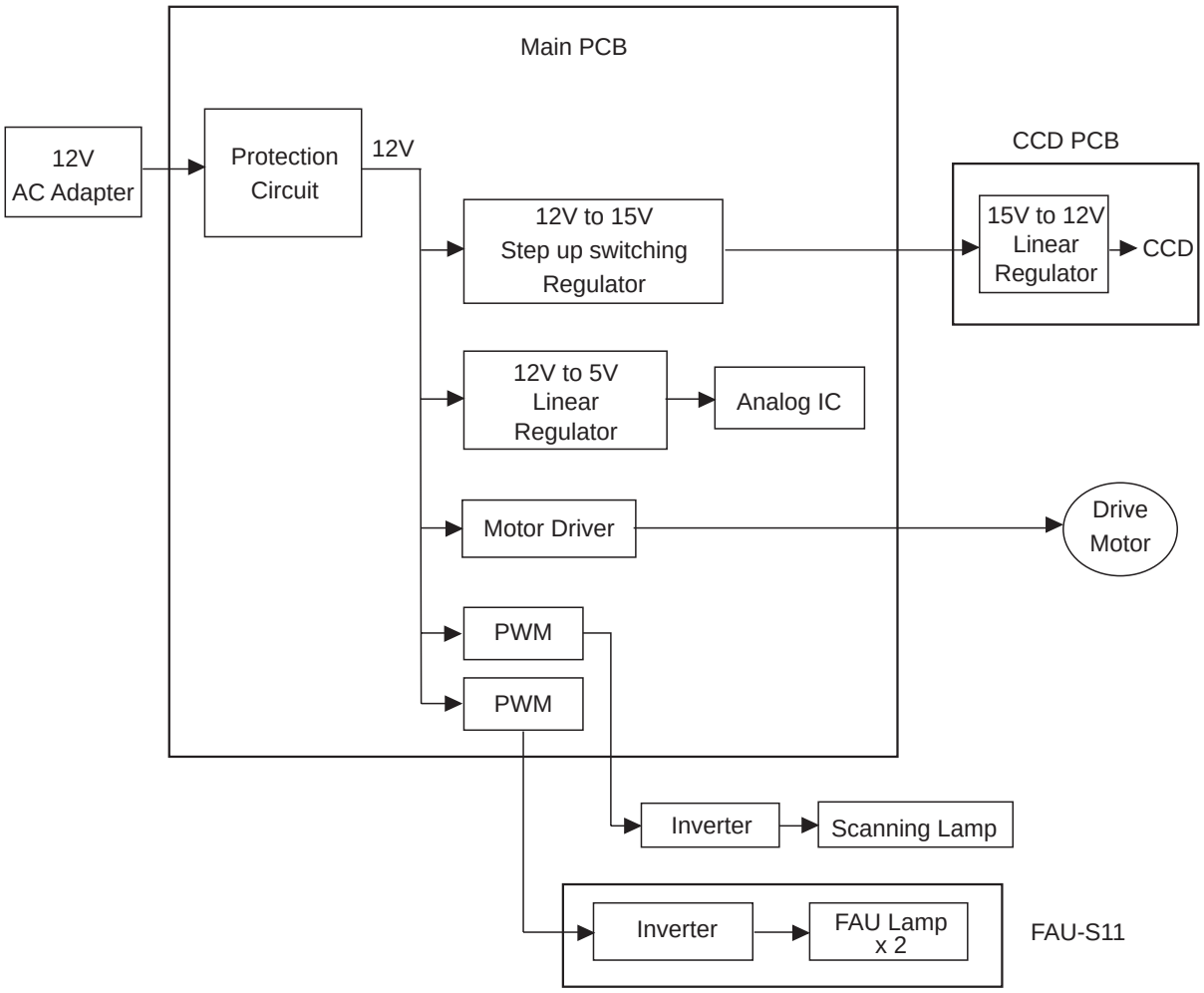

Figure 2-19

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CHAPTER 3

MECHANICAL SYSTEM

I. PARTS REPLACEMENT 3-1
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II. EXTERNALS 3-2
A. Removing the Document Cover 3-2
B. Removing the Top Cover and Document Glass Assembly ... 3-3
III. PCBs 3-4
A. Removing the Main PCB 3-4
B. Removing the Button PCB ... 3-6
IV. OPTICAL SYSTEM 3-8
A. Removing the Carriage Assembly 3-8
B. Removing the Motor Assembly 3-14

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I. PARTS REPLACEMENT

A. Precautions

* Disconnect the AC adapter and USB cable from the scanner before replacing the parts.
* Wear anti-static gloves and grounding strap around the wrist during the work.
* Follow the instructed steps. Do not loosen any screw from the parts that is not to be replaced.
* Store the removed parts in a clean place and avoid missing.
* Attach the parts in reverse order of the removing steps, unless otherwise specified.
* After replacement, check the quantity and shape of the parts.

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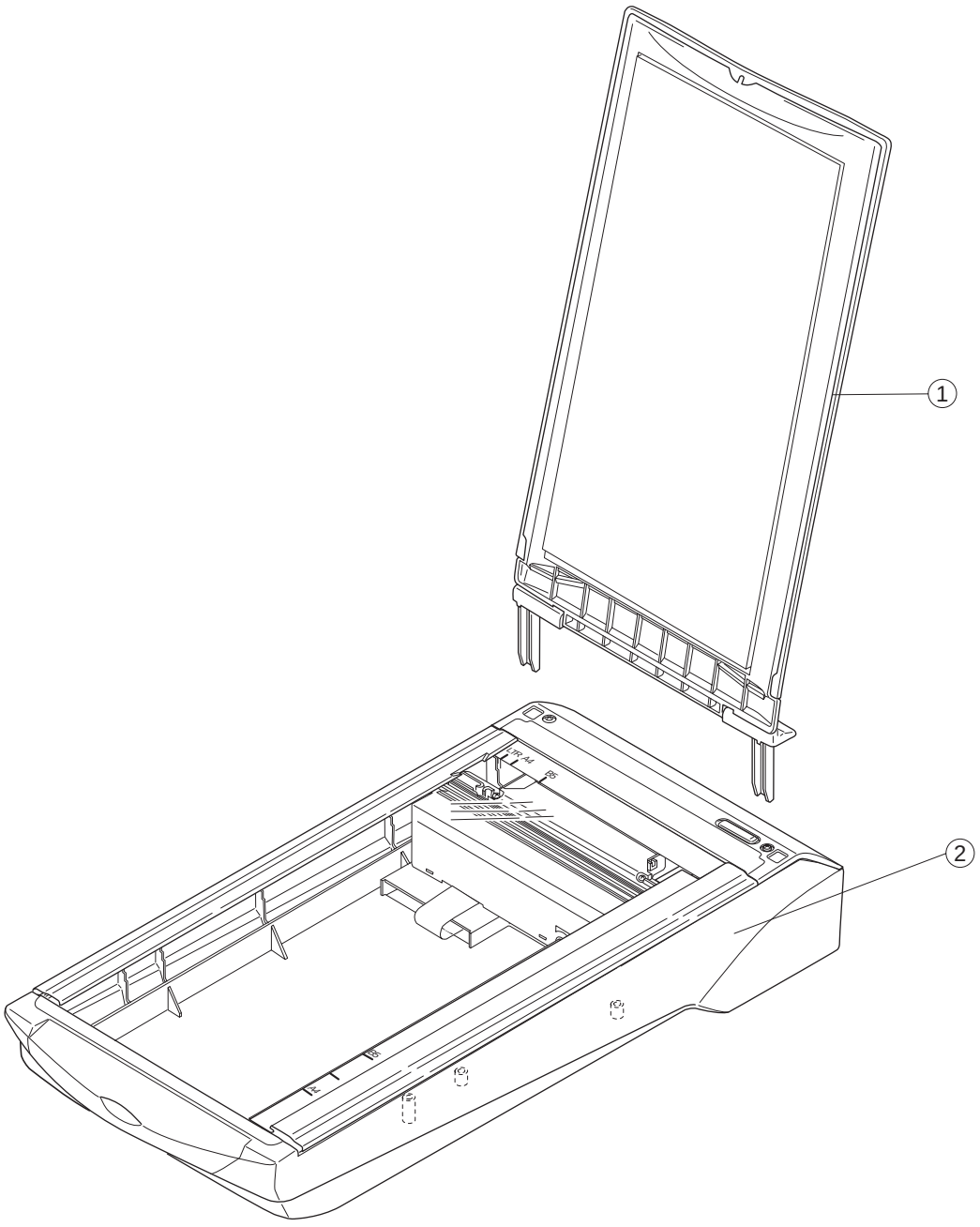
II. EXTERNALS

A. Removing the Document Cover

1) Open the document cover until it is perpendicular to the base frame, then lift to remove it.



① Document Cover
② Base Frame

Figure 3-1

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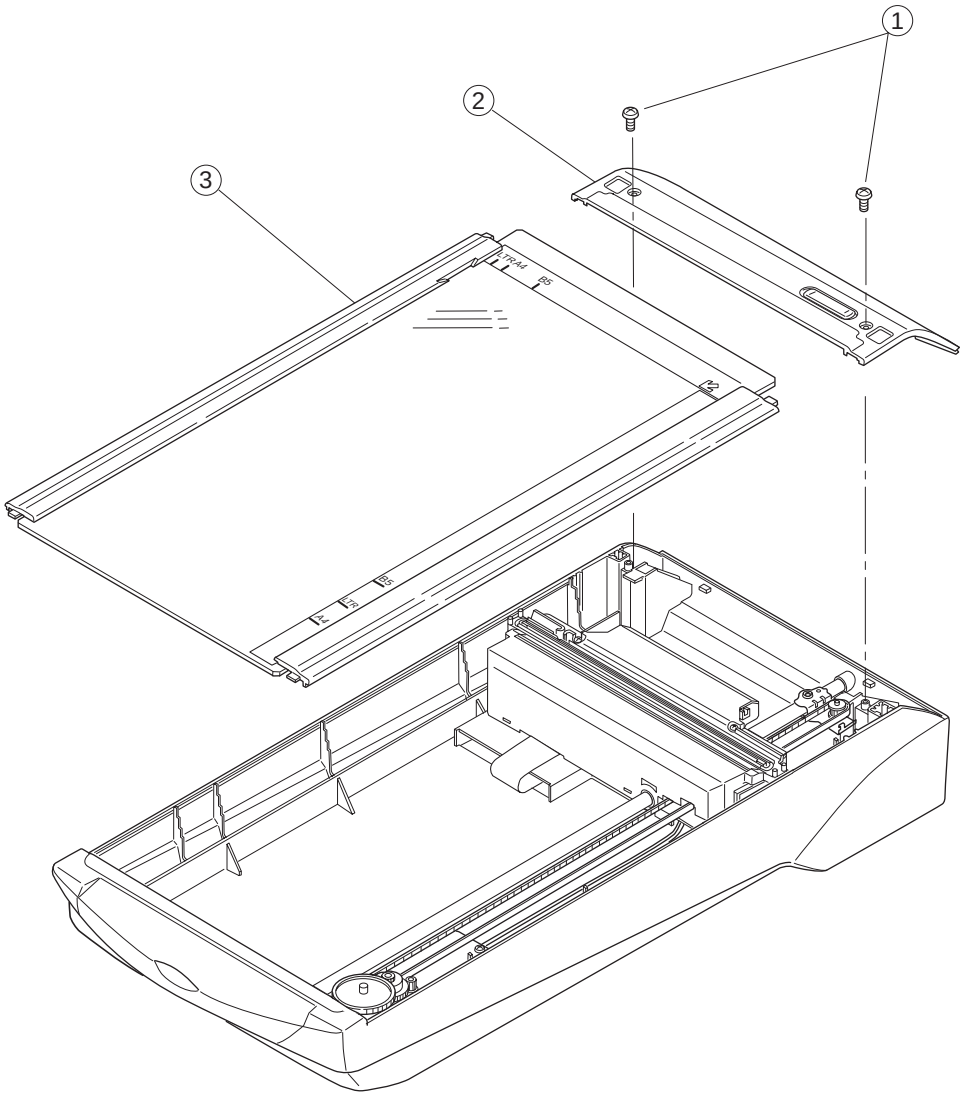
B. Removing the Top Cover and Document Glass Assembly

1) Remove two screws from the top cover, then lift the top cover and document glass assembly to remove them.



① Screw
② Top Cover
③ Document Glass Assembly

Figure 3-2

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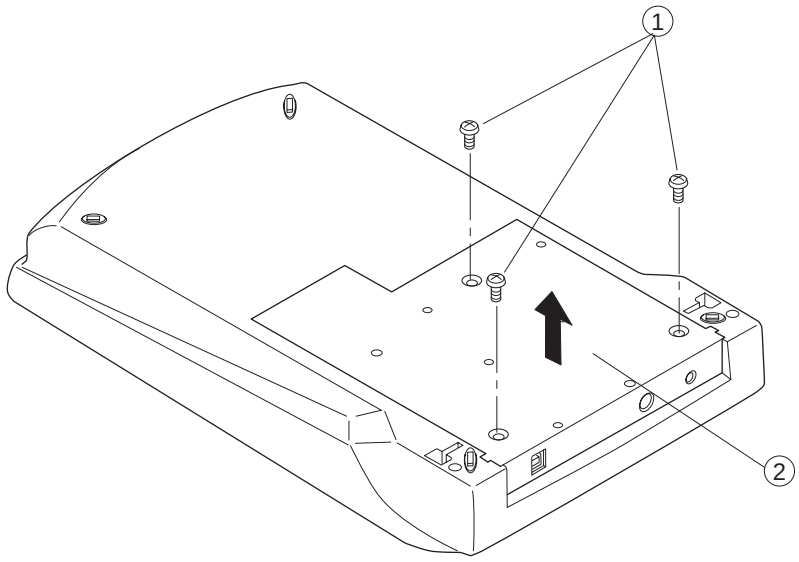
III. PCBs

A. Removing the Main PCB

1) Remove three screws from the bottom of the scanner to take out the main PCB.



① Screw
② Main PCB

Figure 3-3

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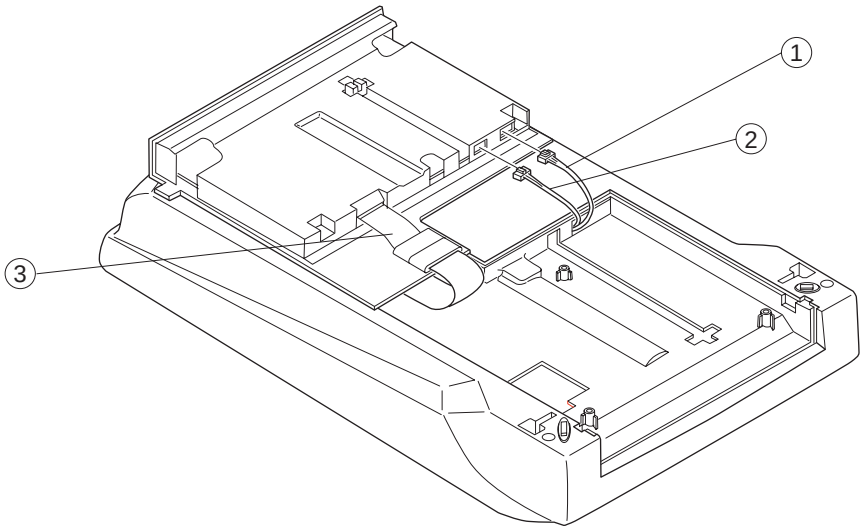
2) Disconnect the cables for the motor assembly, button PCB and scanning unit from the main PCB.



① Motor Assembly Cable
② Button PCB Cable
③ Scanning Unit Cable (Flat Cable)

Figure 3-4

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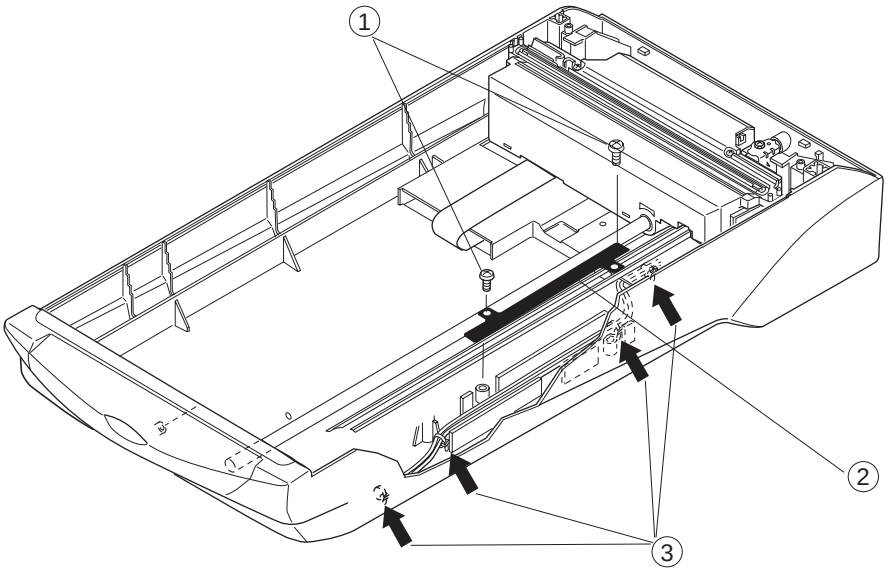
B. Removing the Button PCB

1) Remove the main PCB.
2) Remove the top cover and document glass assembly.
3) Remove two screws from the cable cover to remove it, then cut four tie-wraps.



① Screw
② Cable Cover
③ Tie-wrap

Figure 3-5

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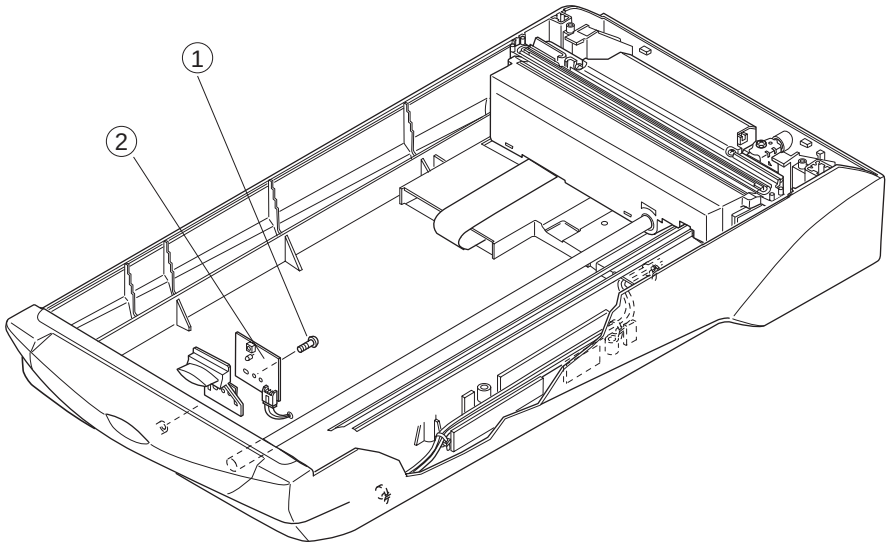
4) Remove the screw from the button PCB to remove it.



① Screw
② Button PCB

Figure 3-6

Note: When assembling, make sure to tie-wrap the cables for the motor assembly and button PCB.

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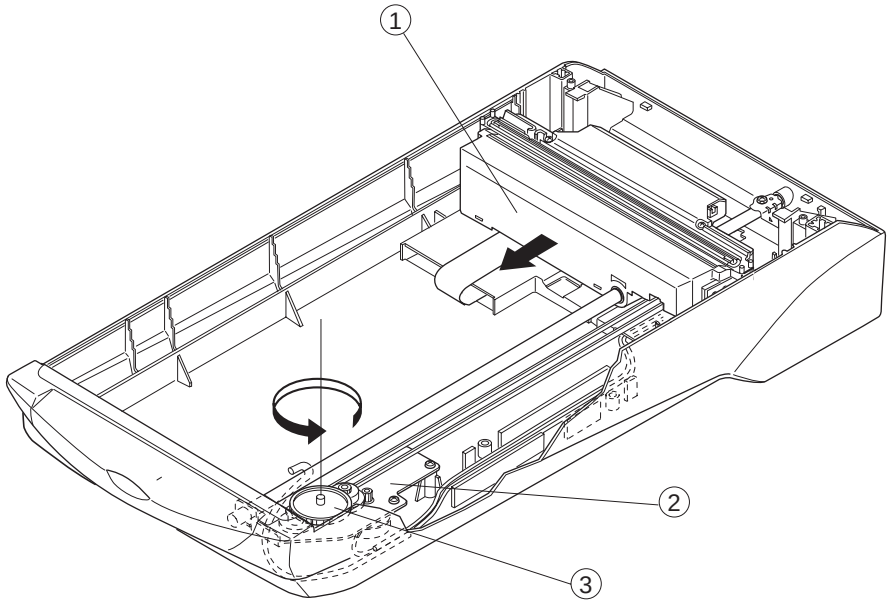
IV. OPTICAL SYSTEM

A. Removing the Carriage Assembly

1) Remove the main PCB.
2) Remove the top cover and document glass assembly.
3) Rotate the gear mounted on the motor assembly to move the carriage assembly away from the home position.



① Scanning Unit
② Motor Assembly
③ Gear

Figure 3-7

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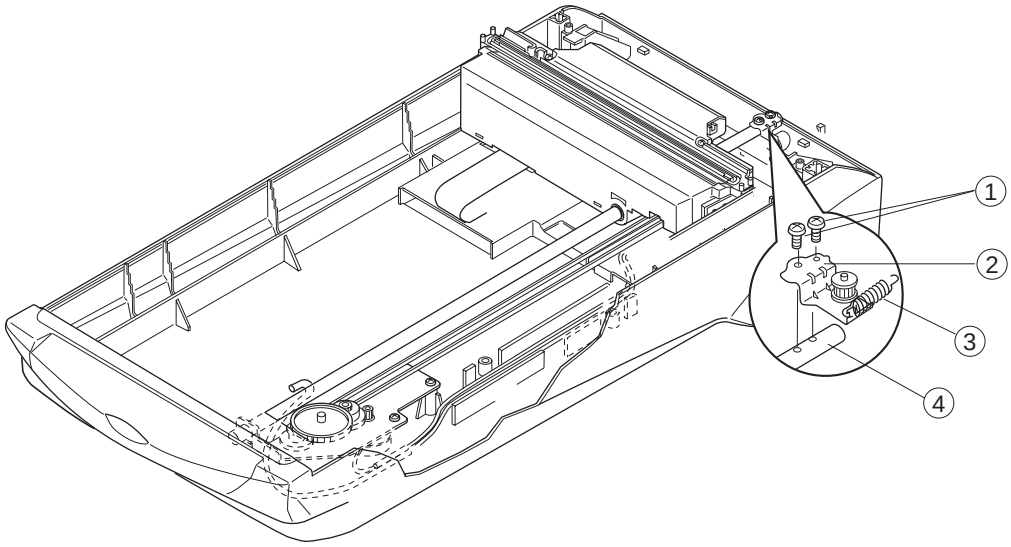
4) Remove two screws that fix the gear plate 2 on the sliding rod to remove the gear plate 2 and spring.



① Screw
② Gear Plate 2
③ Spring
④ Sliding Rod

Figure 3-8

Note: When fixing the gear plate 2 on the sliding rod, use the spring to adjust the drive belt tension.

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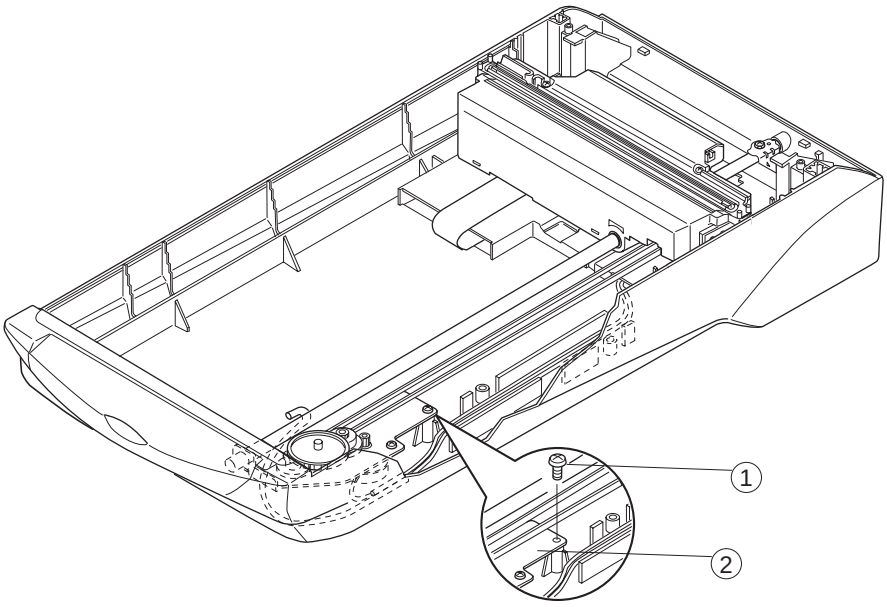
5) Remove the screw that fixes the motor assembly on the main frame.



① Screw
② Motor Assembly

Figure 3-9

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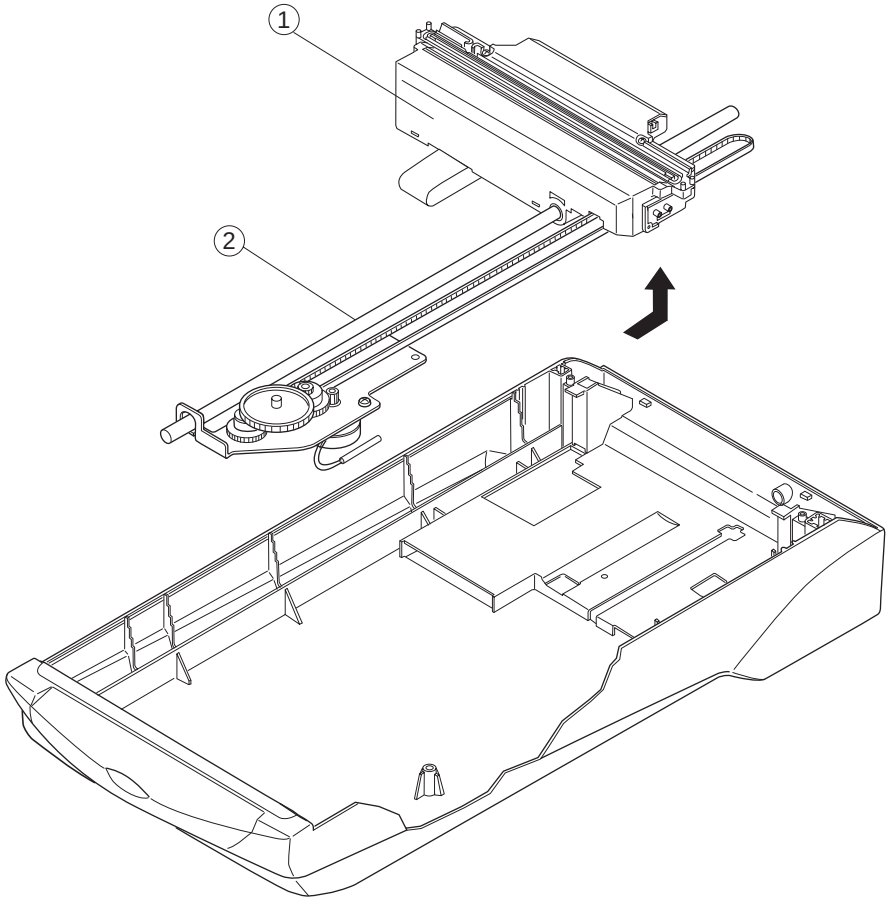
6) Slide the sliding rod with the carriage assembly in the arrow direction, then lift to remove it.



① Scanning Unit
② Sliding Rod

Figure 3-10

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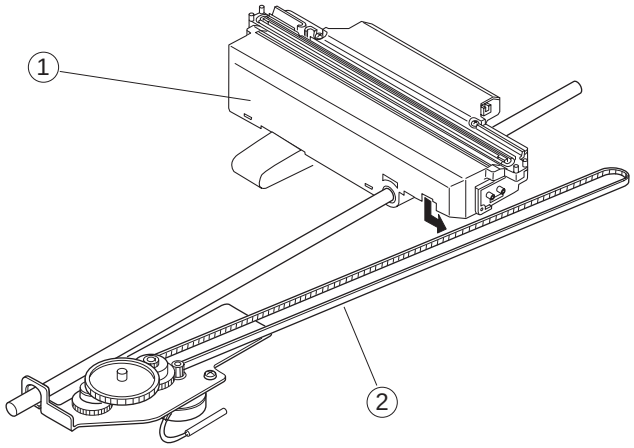
7) Remove the drive belt from the carriage assembly.



① Scanning Unit
② Drive Belt

Figure 3-11

Note: Do not remove the flat cable from the carriage assembly.

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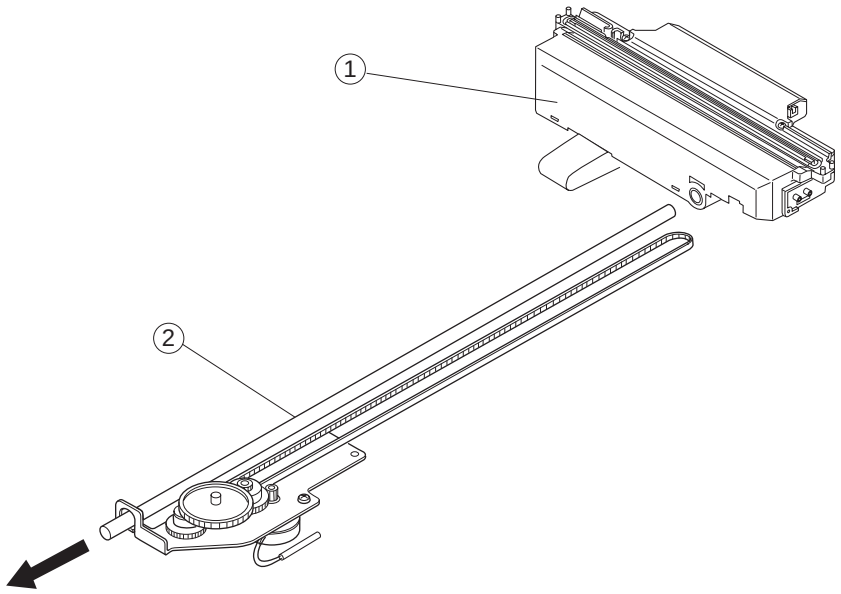
8) Pull out the sliding rod to remove the carriage assembly.



① Scanning Unit
② Sliding Rod

Figure 3-12

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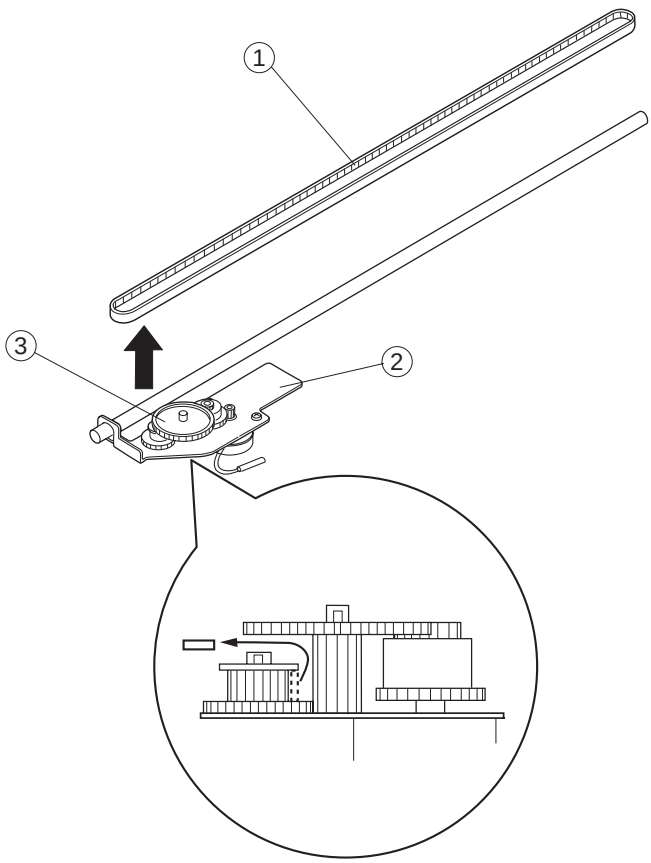
B. Removing the Motor Assembly

1) Remove the main PCB.
2) Remove the top cover and document glass assembly.
3) Remove the carriage assembly.
4) Remove two screws from the cable cover to remove it, then cut four tie-wraps.
5) Pull the drive belt through the gear to remove it from the motor assembly.



① Drive Belt
② Motor Assembly
③ Gear

Figure 3-13

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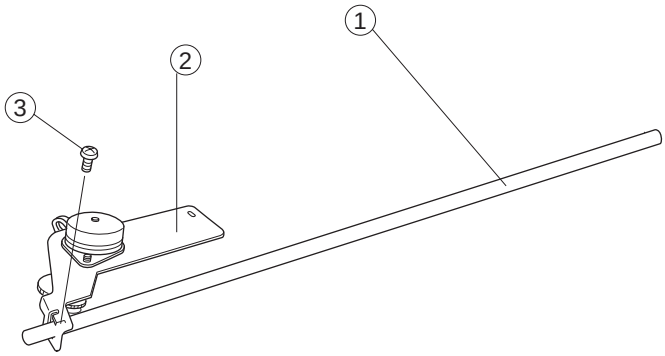
6) Remove the screw that fixes the motor assembly on the sliding rod.



① Sliding Rod
② Motor Assembly
③ Screw

Figure 3-14

Note: When attaching, make sure to tie-wrap the cables for the motor assembly and button PCB.

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CHAPTER 4

MAINTENANCE AND SERVICING

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II. CONSUMABLE PARTS DURABILITY 4-1
III. PERIODICAL SERVICING 4-1
IV. SPECIAL TOOLS 4-1
V. SOLVENTS AND LUBRICANTS 4-1

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I. PERIODICAL REPLACEMENT PARTS

None

II. CONSUMABLE PARTS DURABILITY

None

III. PERIODICAL SERVICING

None

IV. SPECIAL TOOLS

None

V. SOLVENTS AND LUBRICANTS

None

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CHAPTER 5

TROUBLESHOOTING

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I. INTRODUCTION

A. Initial Check

Check if the operating environment conforms to the following conditions.

* Line voltage is within ±10% of the rated value.
* Ambient temperature and humidity conform to the operating environment. (Refer to CHAPTER 1, I. SPECIFICATIONS)
* The scanner is not setup near a water faucet, boiler, humidifier, open flame, or in dusty place.
* The scanner is not exposed to direct sunlight. If it is inevitable to setup in a sunny place, hang a curtain to block direct sunlight.
* The scanner is setup in a well-ventilated place.

B. Others

Moving a scanner from a cold place to a warm place can cause condensation on the metal parts, resulting in a faulty operation.

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II. TROUBLESHOOTING FLOWCHART

A. Power ON Failure Troubleshooting Flowchart

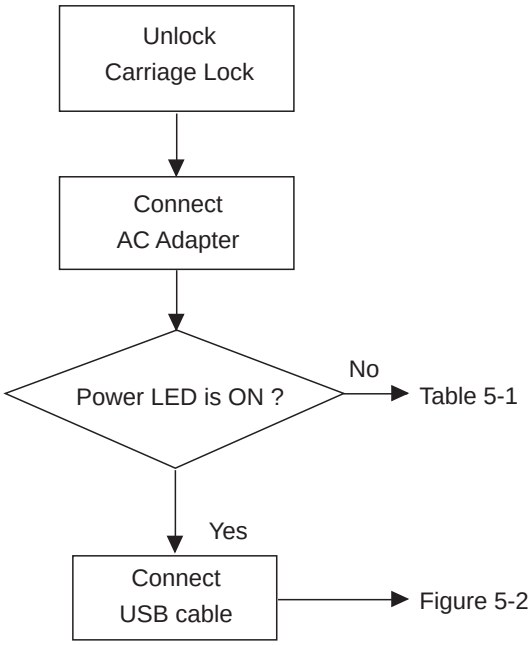

Figure 5-1

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B. Communication Failure Troubleshooting Flowchart

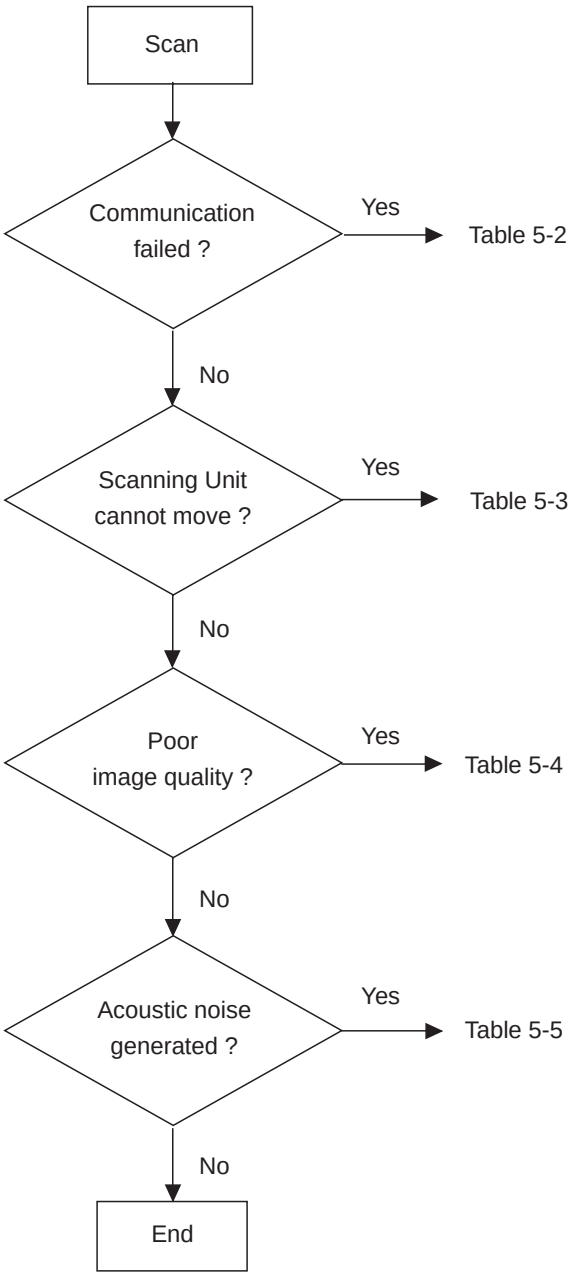

Figure 5-2

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III. PROBLEM, CAUSE AND CORRECTIVE ACTION

FB1210U may have the following five problems.

* Power LED not lighting
* Communication failure
* Carriage movement failure
* Poor image quality
* Noise generated

A. Power LED Not Lighting

Possible Cause	Related Parts	Check Method	Corrective Action
AC adapter is unplugged from the outlet	None	Visual check	Plug the AC adapter into the outlet
AC Adapter cable is disconnected from the scanner	None	Visual check	Connect the AC adapter cable to the power connector on the scanner
AC adapter output voltage failure	AC Adapter	Output voltage (+12V) check	Replace the AC adapter
Main PCB failure	Main PCB	Tester check (+12V, GND)	Replace the main PCB
Main PCB connection failure	None	Visual check	Properly connect the main PCB

Table 5-1

B. Communication Failure

Possible Cause	Related Parts	Check Method	Corrective Action
USB cable connection failure	USB cable	Visual check	Connect the USB cable properly
Scanner communication failure	Main PCB	Trial replacement	Replace the main PCB
Scanning unit failure	Scanning unit	Trial replacement	Replace the scanning unit

Table 5-2

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C. Carriage Movement Failure

Possible Cause	Releated Parts	Check Method	Corrective Action
Drive belt broken or worn	Drive belt	Trial replacement	Replace the drive belt
Gears broken or worn	Gear plate 2	Trial replacement	Replace the gear plate 2
Start button failure	Button PCB	Trial replacement	Replace the button PCB
Drive motor failure	Motor assembly	Trial replacement	Replace the motor assembly

Table 5-3

D. Poor Image Quality

Possible Cause	Releated Parts	Check Method	Corrective Action
Scanning lamp is dark	Scanning unit	Visual check	Replace the scanning unit
Dirt on document glass	Document glass	Visual check	Clean the document glass
Main PCB failure	Main PCB	Trial replacement	Replace the main PCB
CCD PCB failure	Scanning unit	Trial replacement	Replace the scanning unit

Table 5-4

E. Noise Generated

Possible Cause	Related Parts	Check Method	Corrective Action
Motor assembly failure	Motor assembly	Trial replacement	Replace the motor assembly
Main PCB failure	Main PCB	Trial replacement	Replace the main PCB
Scanning unit failure	Scanning unit	Trial replacement	Replace the scanning unit
Dirt on sliding rod	None	Visual check	Clean the sliding rod
Reference sheet is improperly positioned	Document glass	Trial replacement	Replace the document glass

Table 5-5

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IV. CANON SCANNER TEST

A. Outline

Canon Scanner Test is a utility software to check if faulty operation of CanoScan FB1210U is due to the hardware or the communication with the host computer.

Windows : chk1210.exe (English or Japanese is switched according to the language to be used in Windows.)
Macintosh : chk_for_1210U_E

B. Operating Environment

The following environment is required for operating the Canon Scanner Test.

Windows platform
* CanoScan FB1210U
* PC/AT Compatibles (Pentium or later)
* Windows 98 OS or Windows 2000 OS
* FB1210U Device Driver

Macintosh platform
* CanoScan FB1210U
* Power Macintosh
* Macintosh OS (Version 8.5 or later)
* FB1210U Device Driver

Note: Install CanoScan FB1210U device driver before using the Canon Scanner Test.

C. Functions

Canon Scanner Test has the following functions.

1. Scanner Information

CanoScan FB1210U ROM version, etc. are shown when the scanner is properly communicated with the host computer.

2. Self Test

CanoScan FB1210U self test is executed.

3. Save Test Data

Test result text data is saved in the folder of the Canon Scanner Test.

4. Scan

An image is scanned and saved as an image file.

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D. Functions Descriptions

1. Scanner Information

Select “Scanner information” from the “Function” menu to display as shown in Figure 5-3 (Windows), Figure 5-4 (Macintosh).

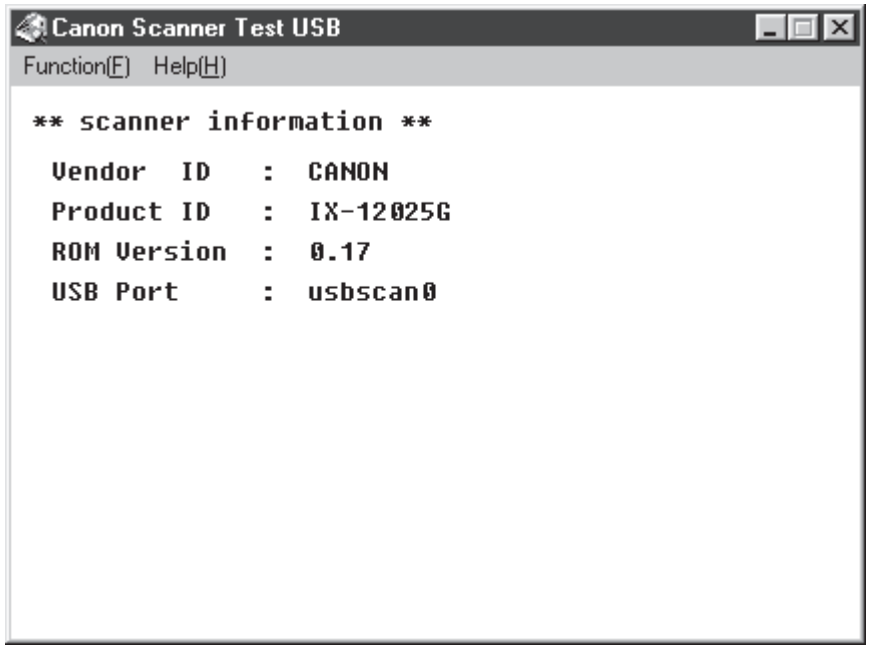

Figure 5-3

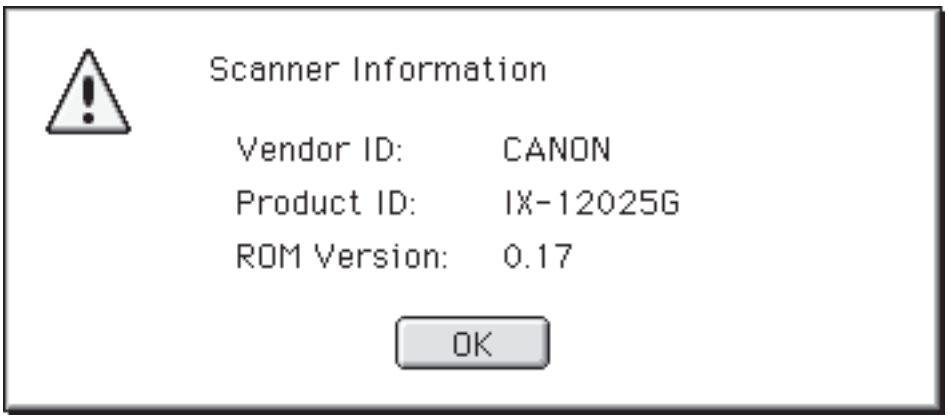

Figure 5-4

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* Vendor ID
CanoScan FB1210U manufacturer name as “Canon”

* Product ID
Product name of CanoScan FB1210U as “IX-12025G”

* ROM Version
Firmware version of CanoScan FB1210U

* USB Port
USB information (Windows only)

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2. Self Test

Select “Scanner self test” from the “Function” menu to display a dialog as shown in Figure 5-5 (Windows), Figure 5-6 (Macintosh).

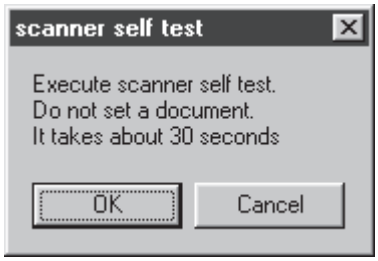

Figure 5-5

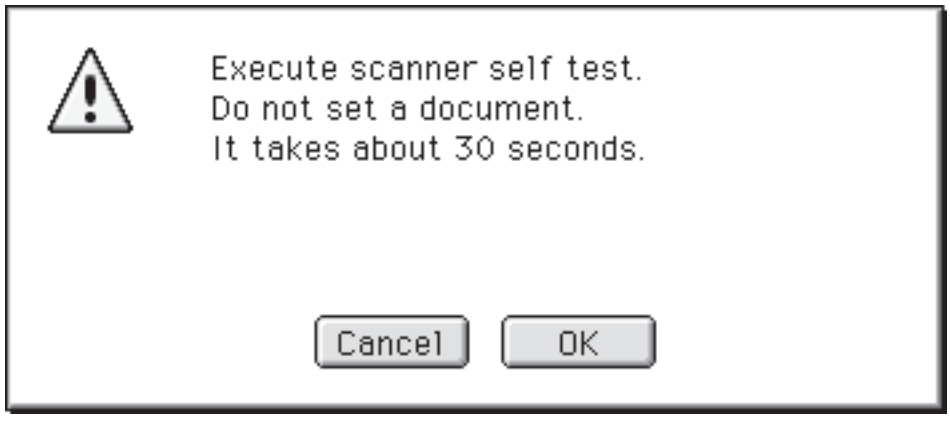

Figure 5-6

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Click “OK” to start scanner self test. When it is completed normally, a dialog is displayed as shown in Figure 5-7 (Windows), Figure 5-8 (Macintosh).

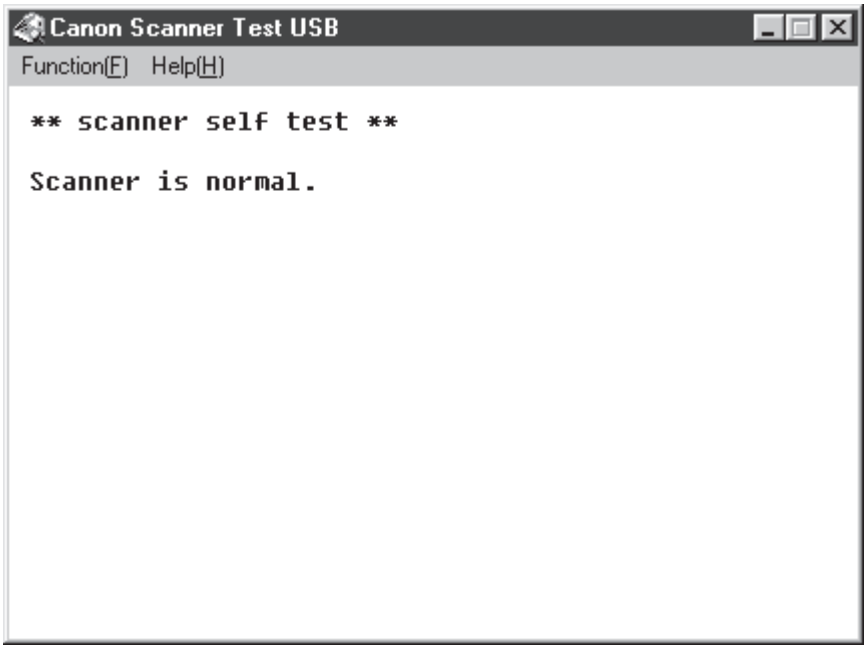

Figure 5-7

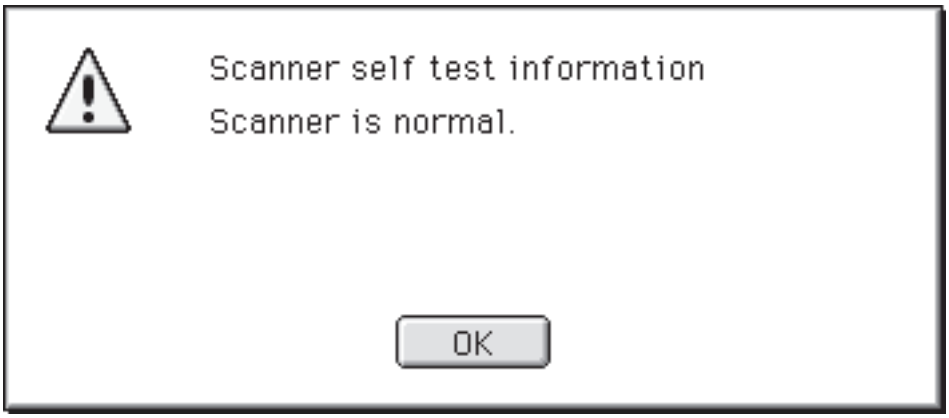

Figure 5-8

When an error occurs, refer to “E. Error Message” to take a corrective action.

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3. Save Test Data

Select “Save test data” from the “Function” menu to display a dialog as shown in Figure 5-9 (Windows), Figure 5-10 (Macintosh).

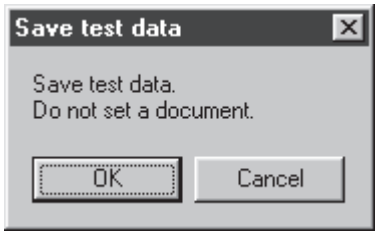

Figure 5-9

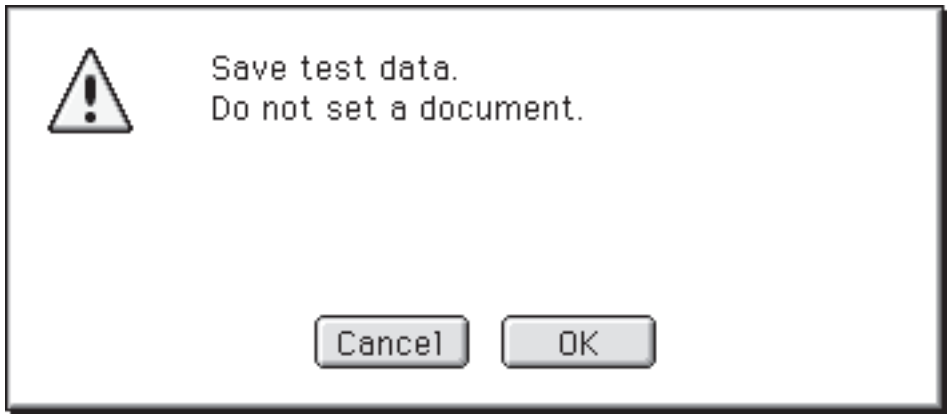

Figure 5-10

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Click “OK” to save test data. When test data has been saved, a dialog is displayed as shown in Figure 5-11 (Windows), Figure 5-12 (Macintosh), and test result text data (test_dat.txt) is saved in the folder of the Canon Scanner Test.

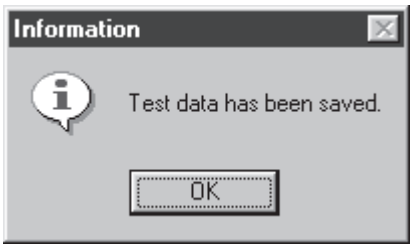

Figure 5-11

Figure 5-12

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4. Scan

Select “Scan” from the “Function” menu to display a dialog as shown in Figure 5-13 (Windows), Figure 5-14 (Macintosh).

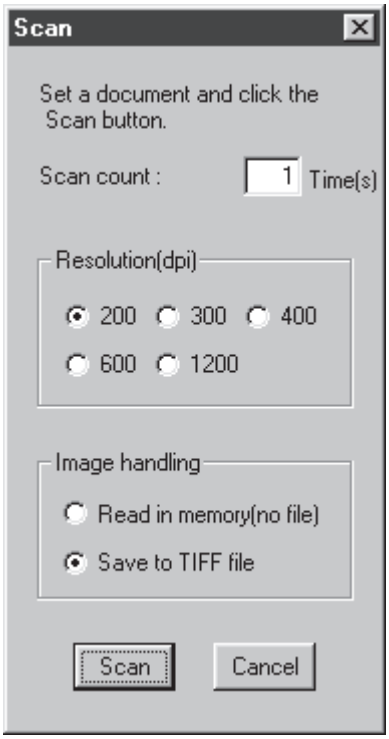

Figure 5-13

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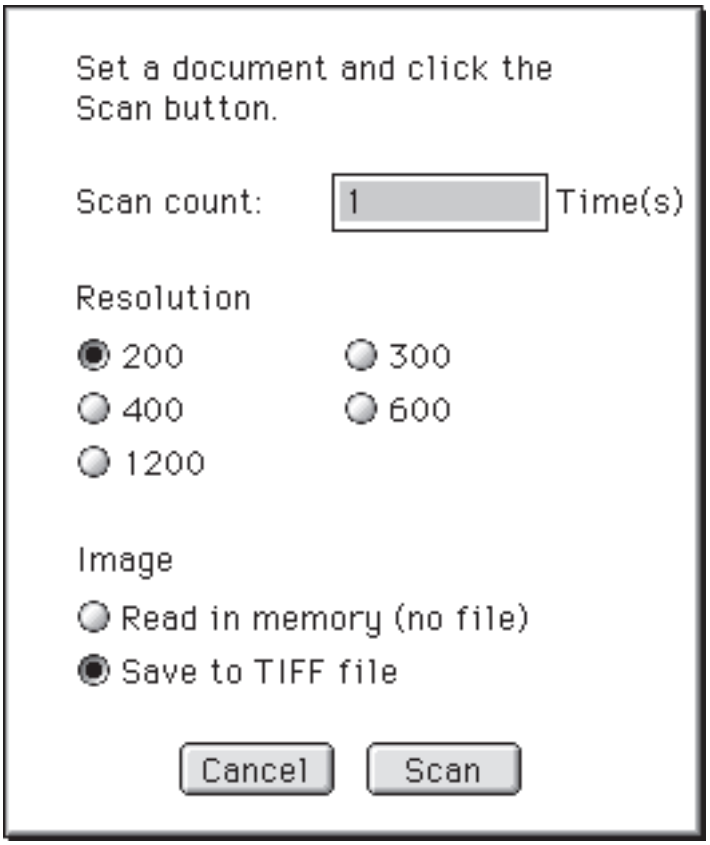

Figure 5-14

* Scan count
  Set a number from 1 to 100.
* Resolution (dpi)
  When the resolution for scanning an image is selected at 200, 300, 400, or 600 dpi, whole document glass area is scanned. When selected at 1200 dpi, 10,280 pixel x 500 pixel area in the upper side of the document glass is scanned.
* Image handling
  When "Read in memory (no file)" is selected, the image is read into the memory, then abandoned after readout. When "Save to TIFF file" is selected for handling an scanned image, the file of "img0.tif" is saved in the folder of the Canon Scanner Test. When scan count is set at 2 or more, the file of "img0.tif", "img1.tif", "img2.tif" ... are saved.

File space to be saved is as follows.
200 dpi : 11.3 MB
300 dpi : 25.6 MB
400 dpi : 45.5 MB
600 dpi : 102.4 MB
1200 dpi : 14.6 MB

Note : Confirm before scanning that the available disk space on the HDD in which the Canon Scanner Test is installed exceeds above file space.

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E. Error Message

1. "Scanner is disconnected or locked."
Cause 1 : Carriage lock is locked.
Corrective action : Unlock the carriage lock.

Cause 2 : USB cable is not properly connected.
Corrective action : Connect the USB cable to the host computer and the scanner properly.

Cause 3 : Scanner is not detected by the host computer.
Corrective action : Refer to the "II. Troubleshooting Flowchart".

2. "Scanner is disconnected."
Cause 1 : Scanner is not connected to the host computer.
Corrective action : Refer to the "II. Troubleshooting Flowchart".

Cause 2 : Device driver is not installed.
Corrective action : Install FB1210U device driver.

3. "Insupportable scanner is connected."
Cause : The connected scanner is not supported by the Canon Scanner Test.
Corrective Action : Connect CanoScan FB1210U.

4. "Unable to find the scanner. Check if the cables are connected properly."
Cause : Scanner is not detected by the host computer.
Corrective Action : Refer to the "II. Troubleshooting Flowchart".

5. "Failed to read scanner information."
Cause : Scanner is not detected by the host computer.
Corrective Action : Refer to the "II. Troubleshooting Flowchart".

6. "Failed to create a file." "Failed to open a file." "Failed to close a file." "Failed to write-in a file."
Cause : Canon Scanner Test is started from a CD-ROM or write-protected HDD.
Corrective Action : Copy the Canon Scanner Test on a writable HDD to use.

7. "Unable to communicate with scanner. Check if scanner is powered ON or USB cable is connected properly."
Cause : Scanner is not detected by the host computer.
Corrective Action : Refer to the "II. Troubleshooting Flowchart".

8. "Scanner has problem." "Failed to execute scanner self test."
Cause : Scanner is not detected by the host computer.
Corrective Action : Refer to the "II. Troubleshooting Flowchart".

9. "Failed to allocate memory."
Cause : Scanner is not detected by the host computer.
Corrective Action : Refer to the "II. Troubleshooting Flowchart".

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CHAPTER 6

PARTS CATALOG

FIGURE 001 6-2

FIGURE 100 6-4

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CanoScan FB1210U

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FIGURE 001 ACCESSORY

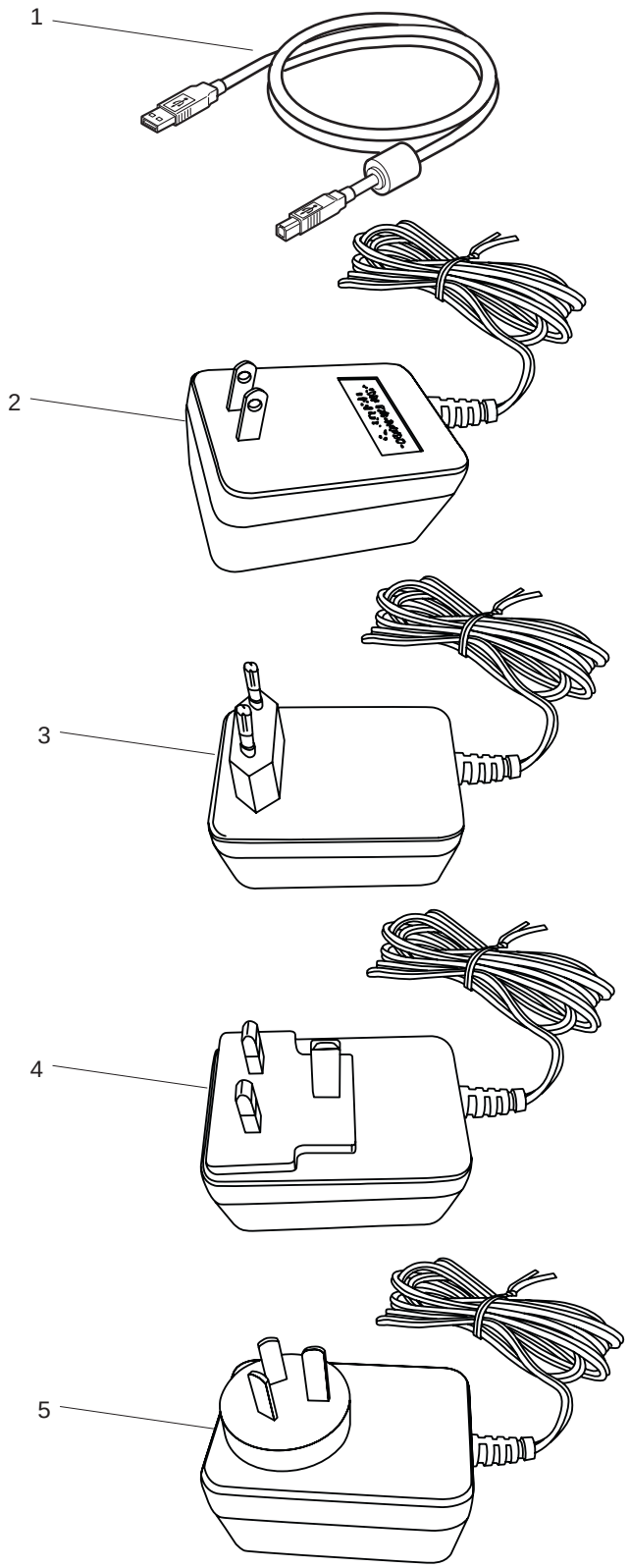

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FIGURE & KEY NO.	PART NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS
001-01	NIC-BXDC-000		1	CABLE, INTERFACE	
02	NIP-WFS0-722		1	ADAPTOR, AC	CANADA, LA, USA
	NIP-WFS0-723		1	ADAPTOR, AC	JAPAN
03	NIP-WFS0-724		1	ADAPTOR, AC	EUR
04	NIP-WFS0-725		1	ADAPTOR, AC	UK, HK
05	NIP-WFS0-726		1	ADAPTOR, AC	AUSTRALIA, SINGAPORE

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FIGURE 100

FB1210U

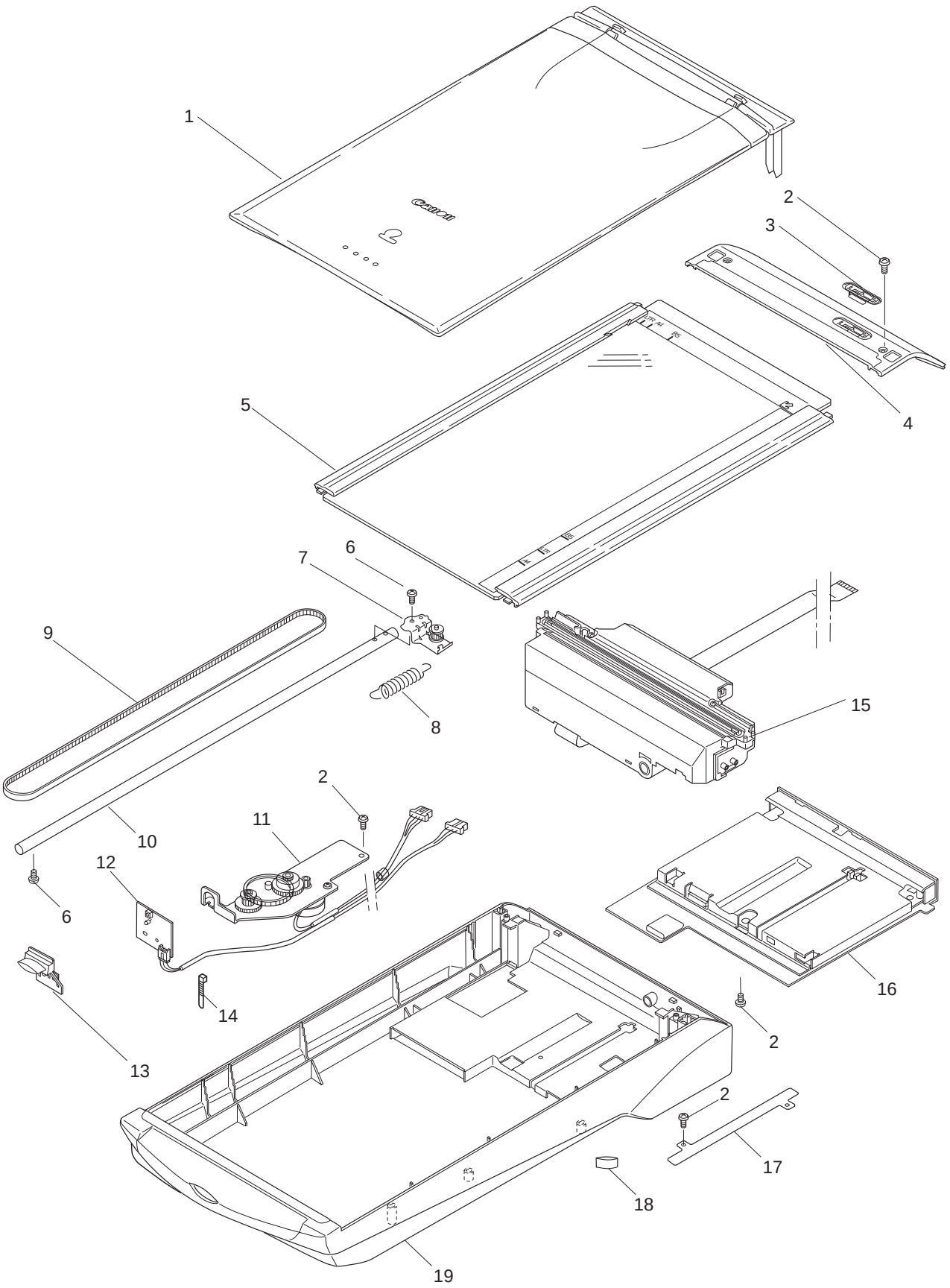

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FIGURE & KEY NO.	PART NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS
100-01	NIA-YFSC-098		1	DOCUMENT COVER ASSEMBLY	
02	NIS-X300-874		9	SCREW, M3X8, SELF-TAPP	
03	NIA-N333-300		1	LOCK, CARRIAGE	
04	NIA-N216-600		1	COVER, TOP	
05	NIA-YFSC-097		1	PLATEN GLASS ASSEMBLY	
06	NIS-M300-882		4	SCREW, M3X8, BH	
07	NIA-YFSC-122		1	PLATE, GEAR 2	
08	NIP-L103-700		1	SPRING	
09	NIB-LHTS-F18		1	BELT, DRIVE	
10	NIM-U101-500		1	SLIDING ROD	
11	NIA-YFSC-099		1	MOTOR ASSEMBLY	
12	NIA-YFSC-080		1	BUTTON PCB ASSEMBLY	
13	NIP-N502-100		1	BUTTON, FUNCTION	
14	NIP-N400-300		4	CLAMP, CABLE	
15	NIA-YFSC-110		1	CARRIAGE ASSEMBLY	
16	NIA-YFSC-121		1	MAIN PCB ASSEMBLY	
17	NIA-S200-100		1	COVER, CABLE	
18	NIR-C201-200		4	FOOT, RUBBER	
19	NPN		1	BASE FRAME	

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APPENDIX

I. GENERAL CIRCUIT DIAGRAM A-1

II. MAIN PCB CIRCUIT DIAGRAM ... A-2

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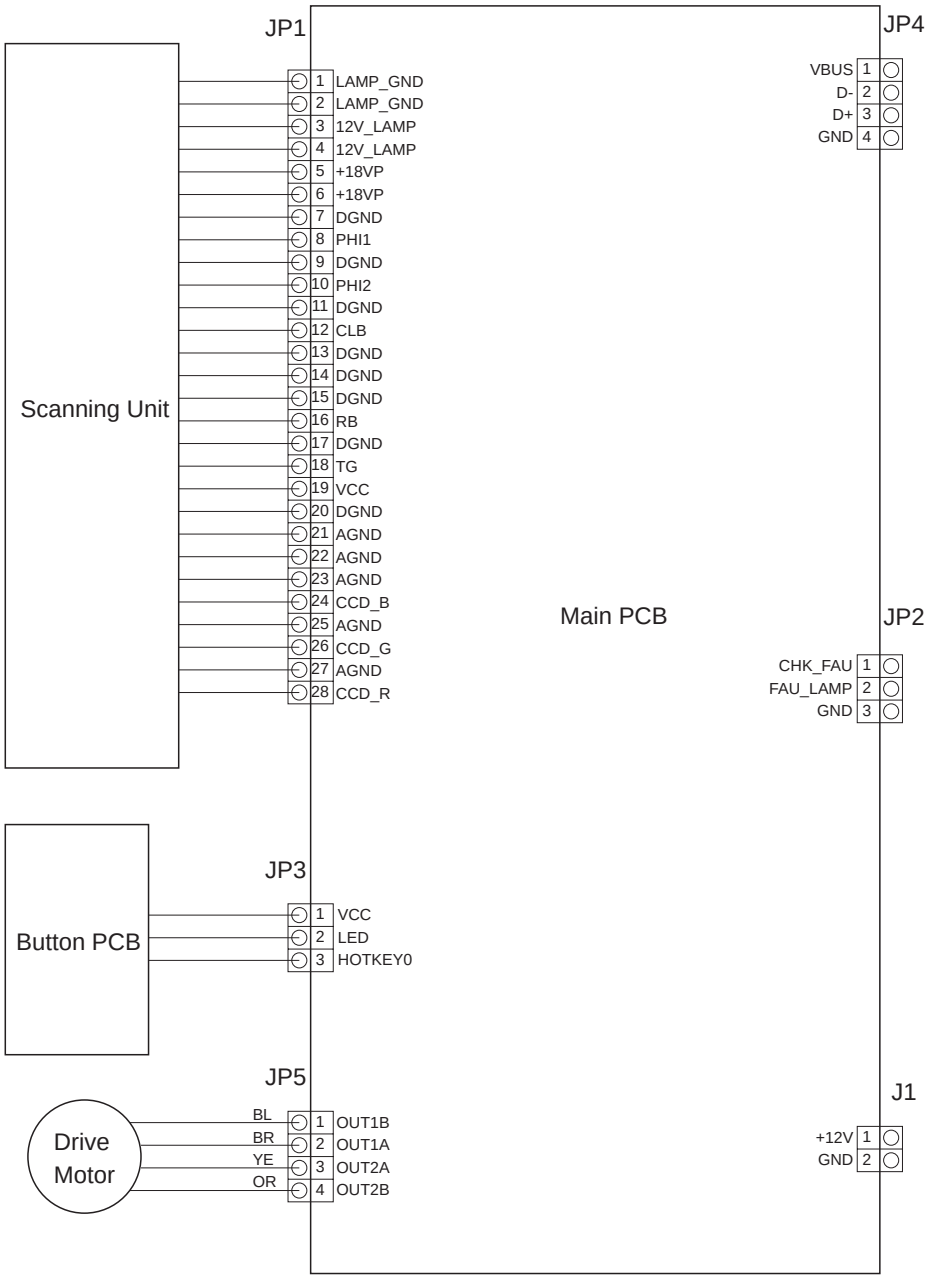
I. GENERAL CIRCUIT DIAGRAM



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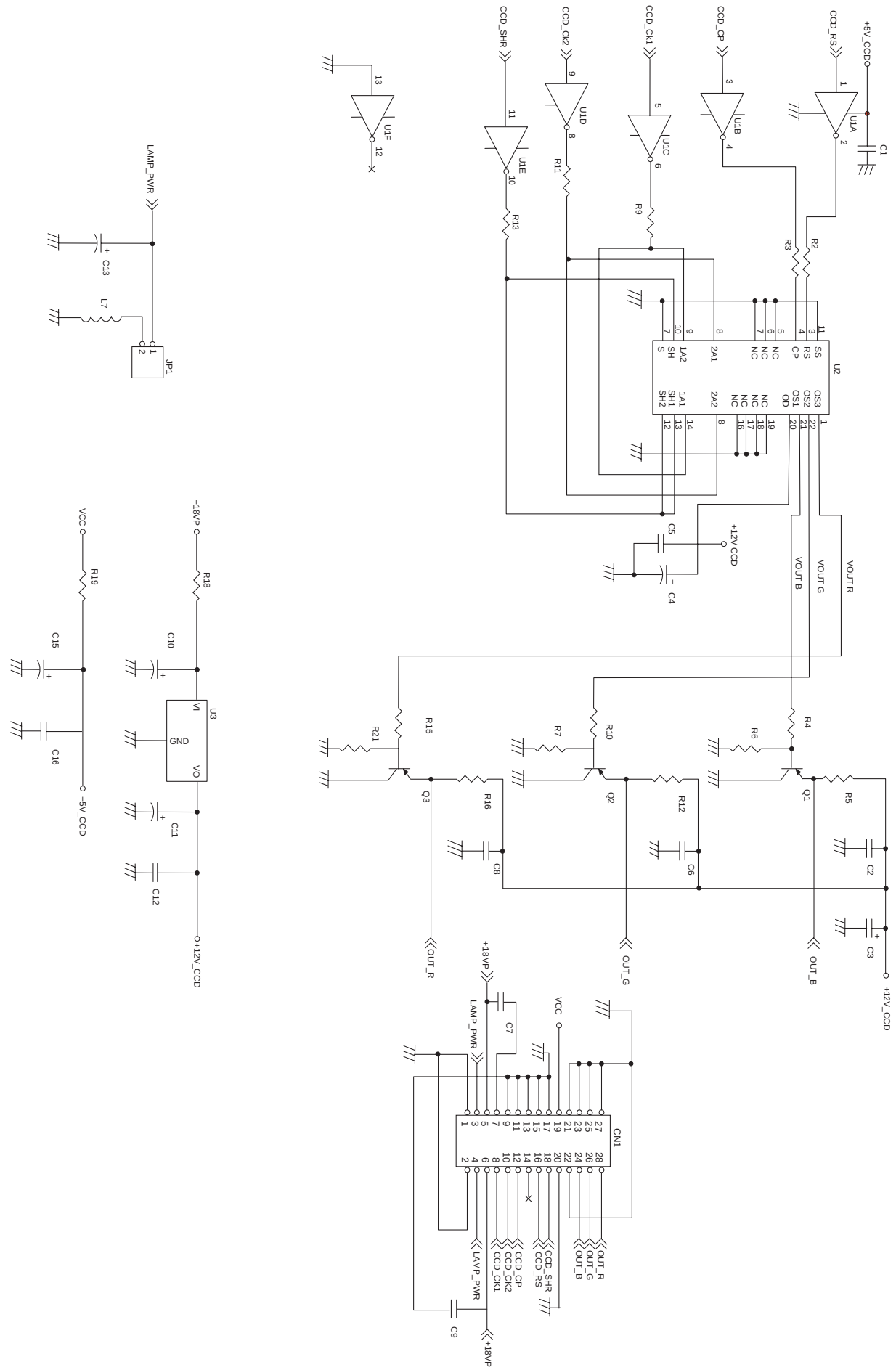
II. MAIN PCB CIRCUIT DIAGRAM



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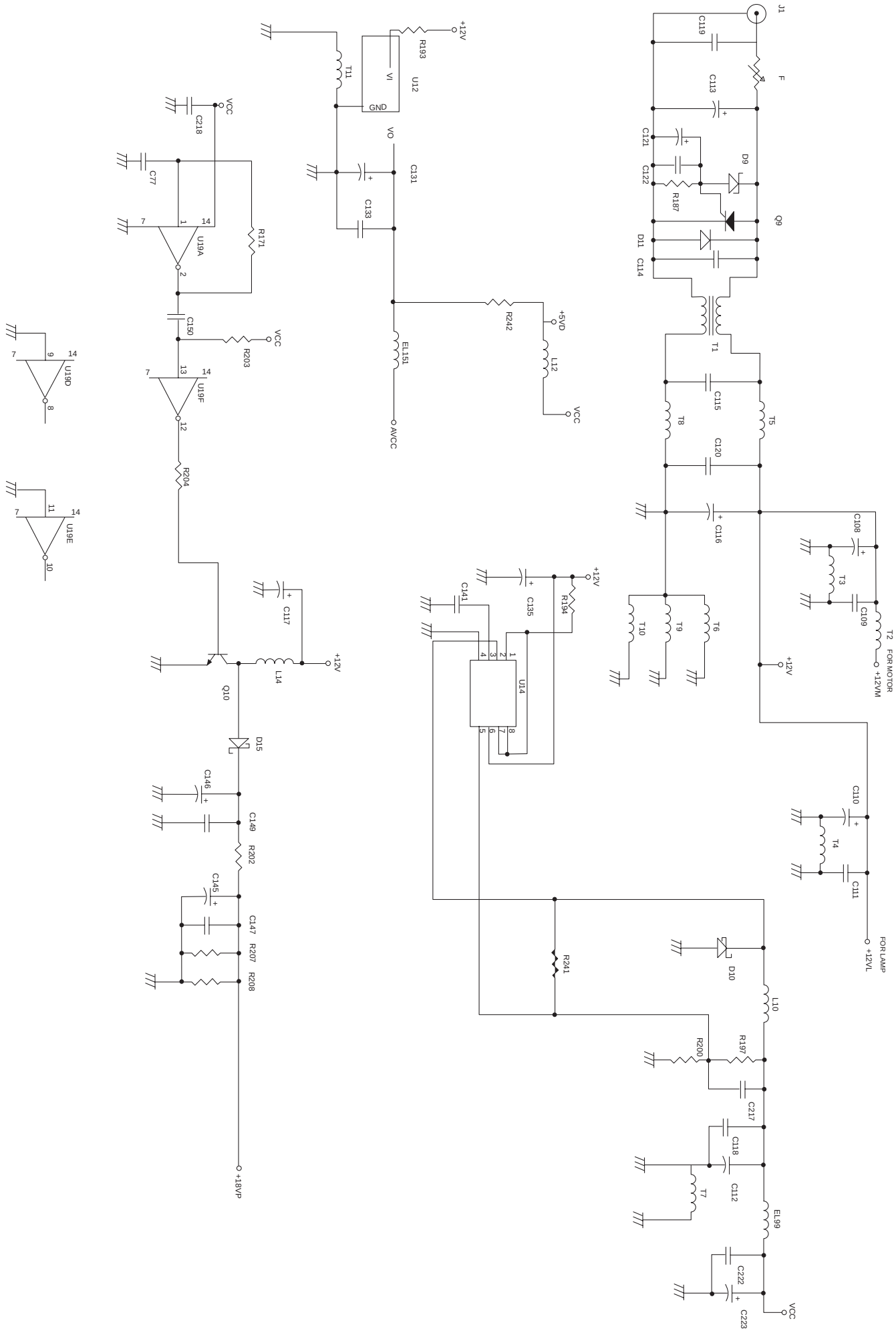

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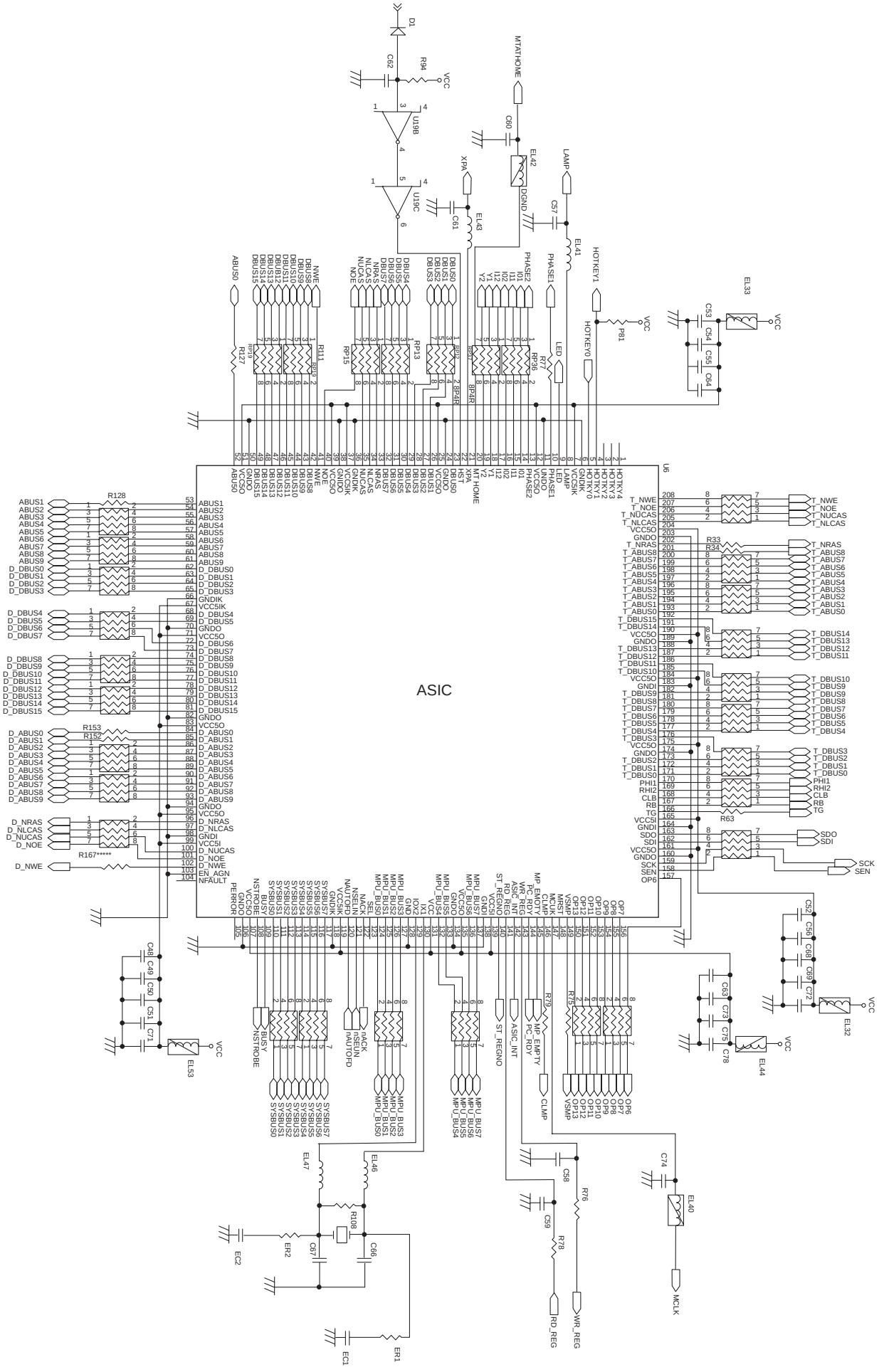

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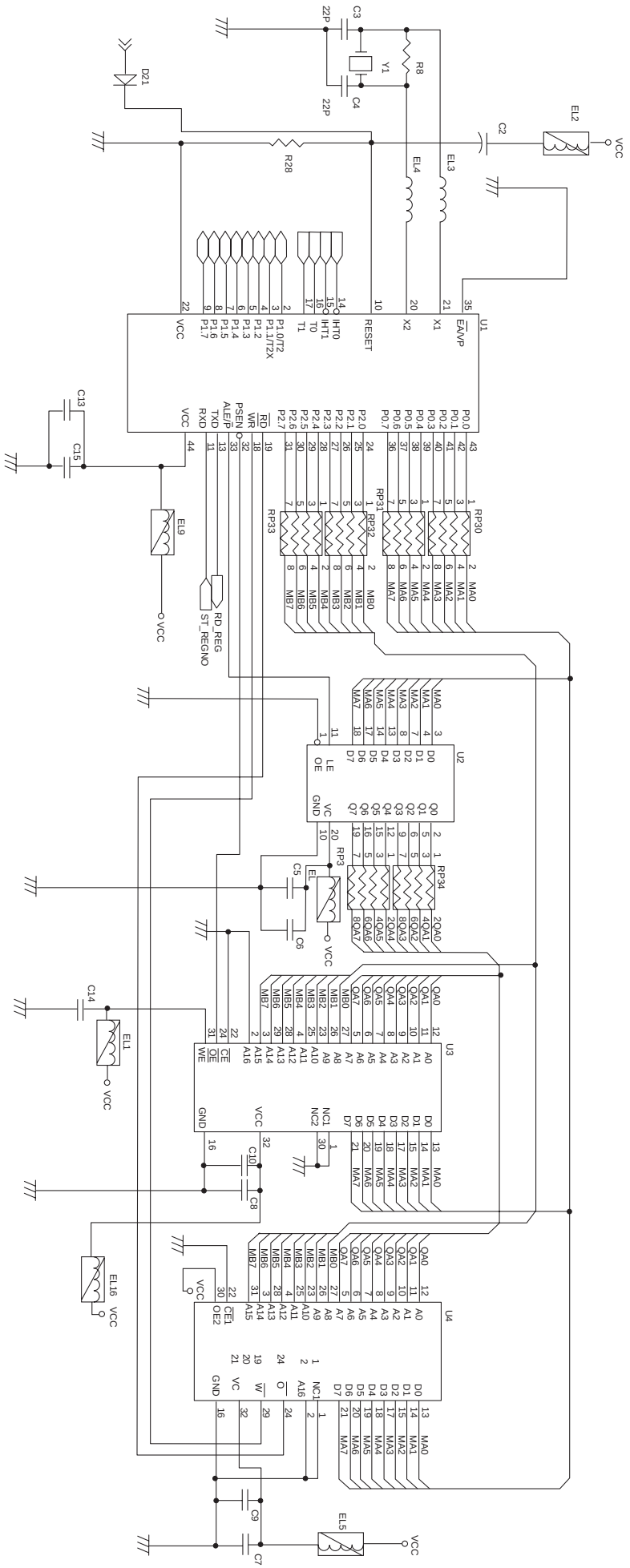

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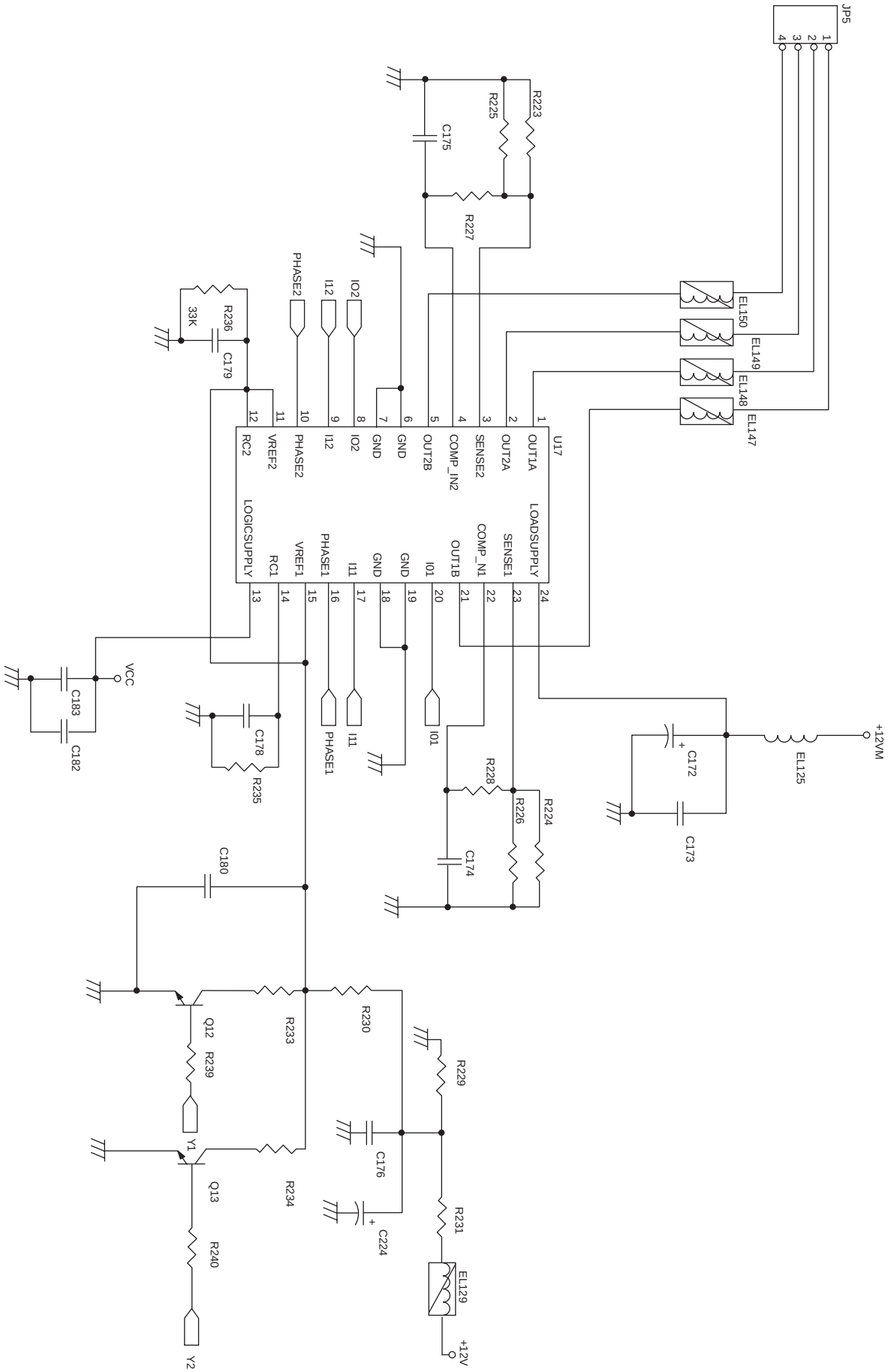

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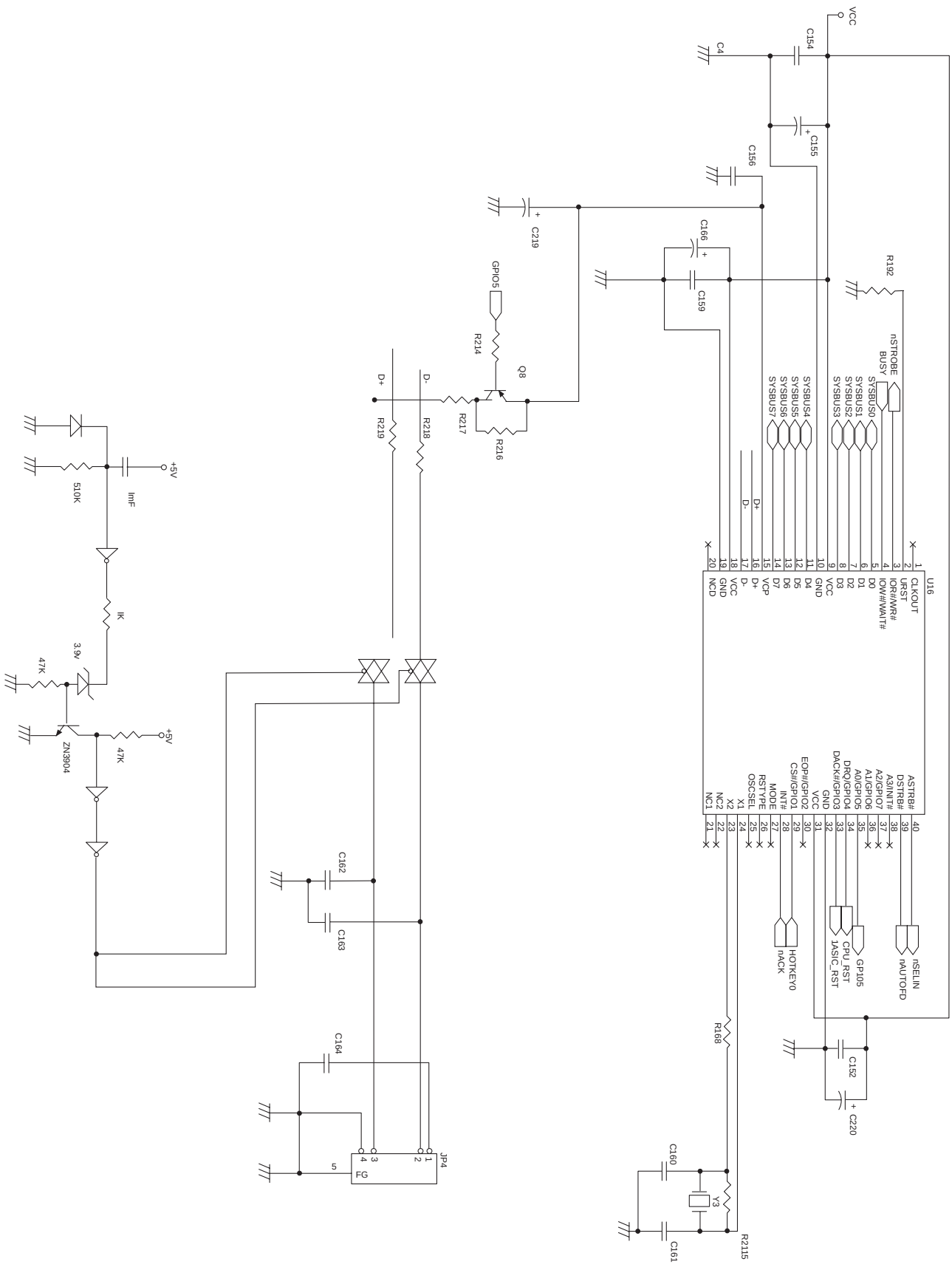

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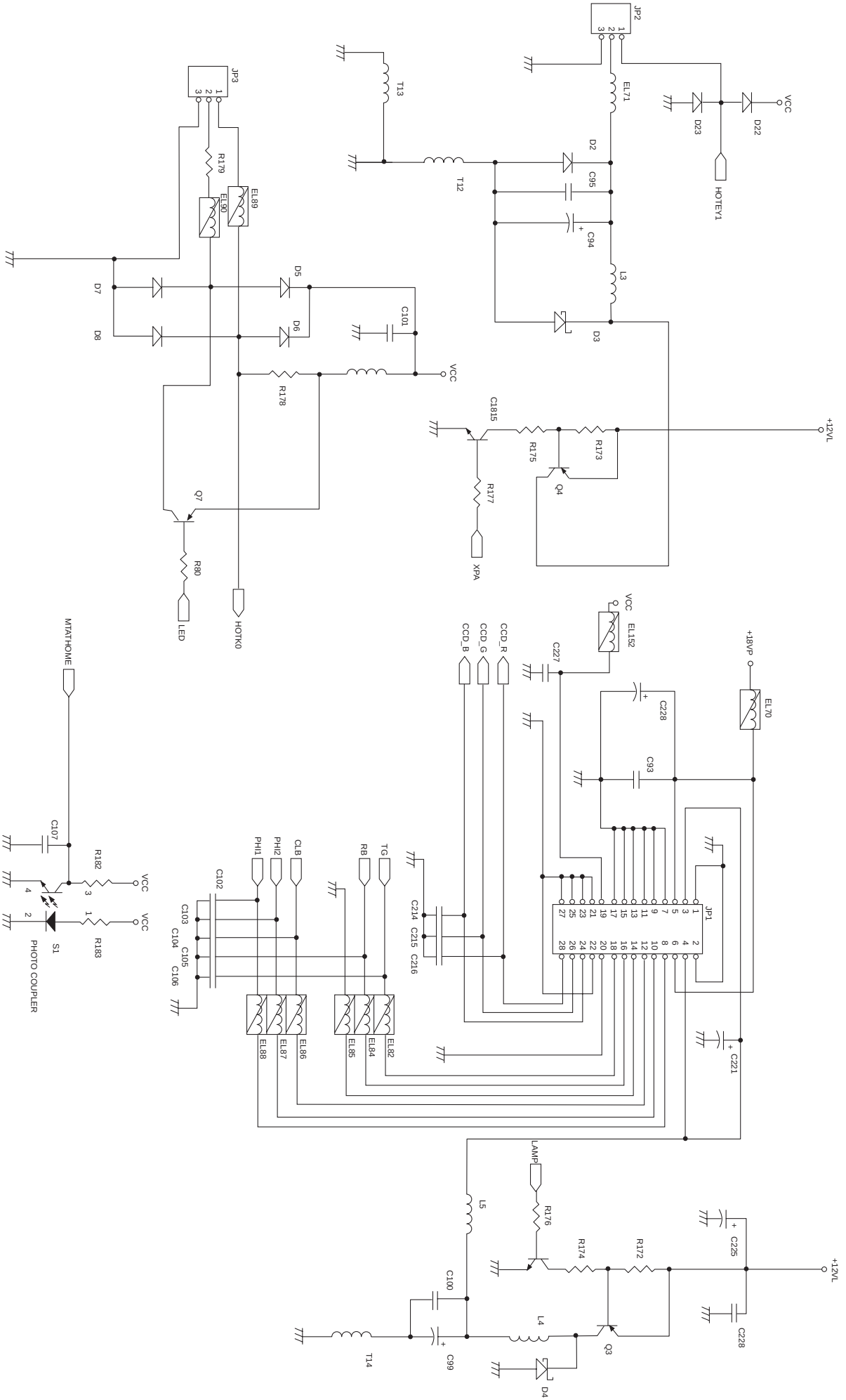

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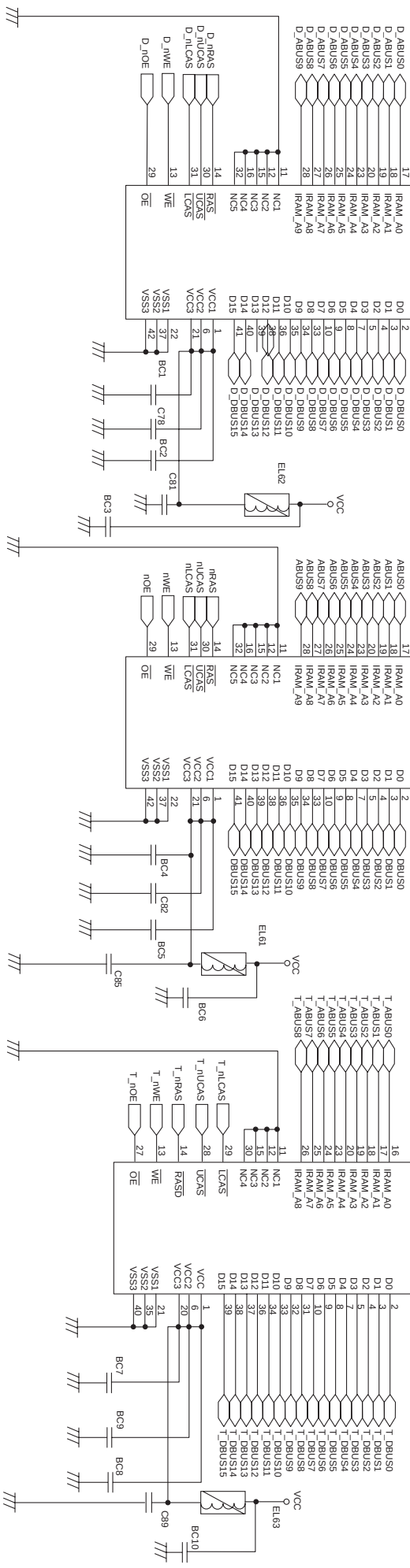

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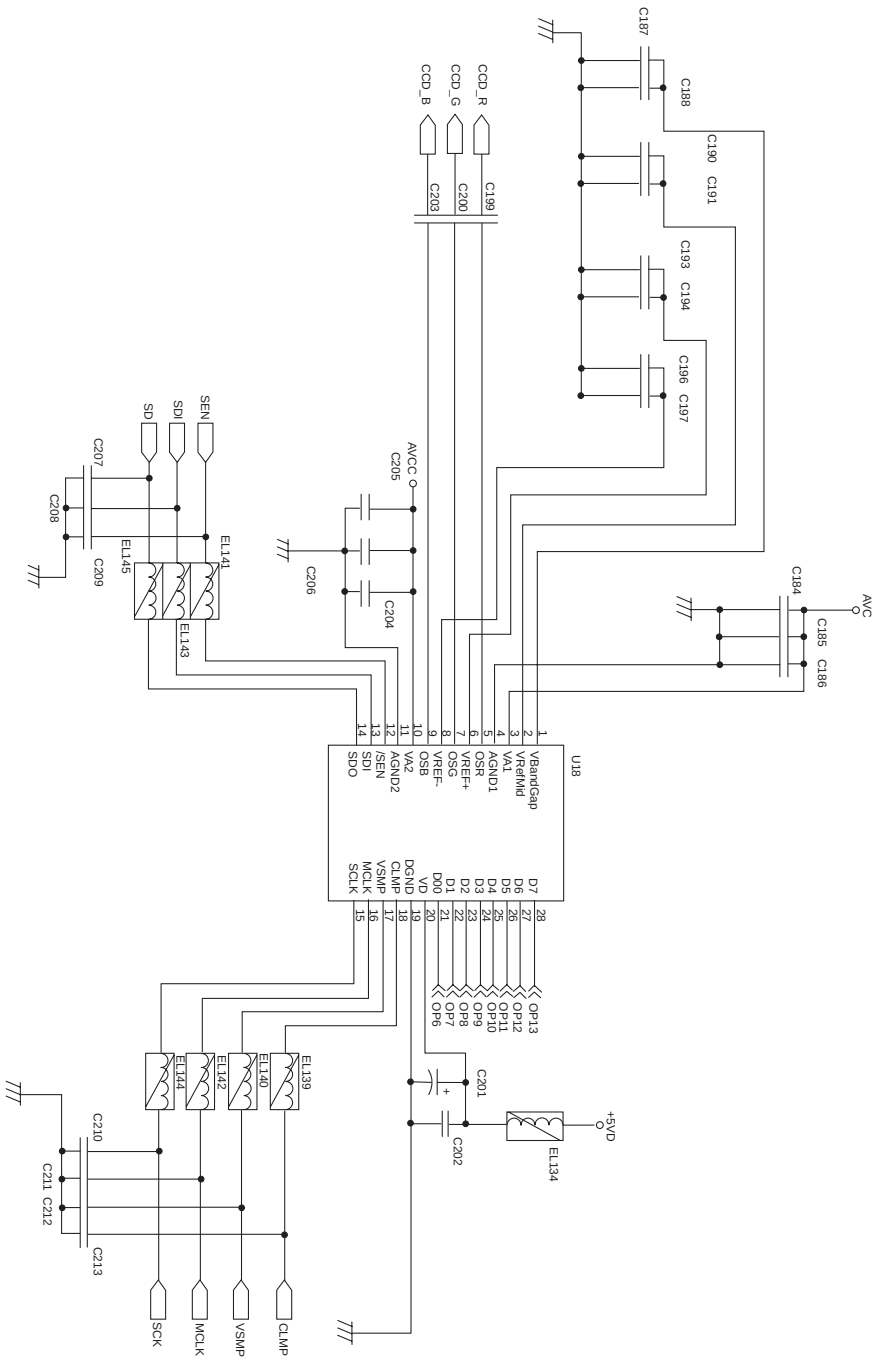

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